OCTOBER 26, 1946

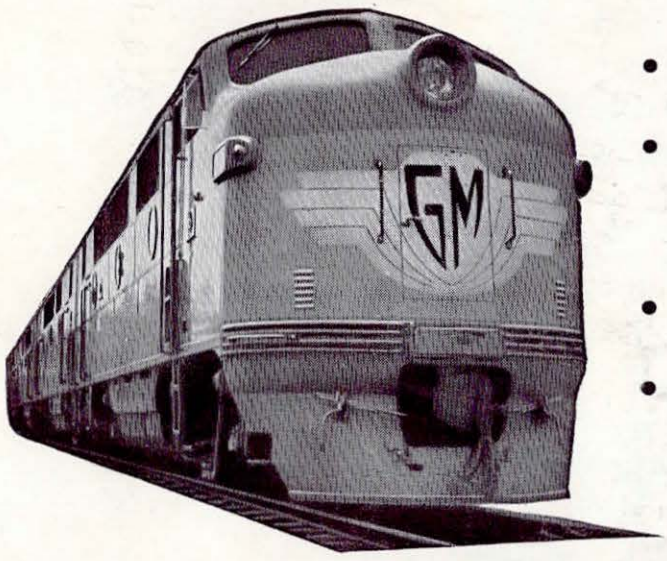
Railway Age

Founded in 1856

GENEVA COLLEGE

F3

GOES INTO PRODUCTION

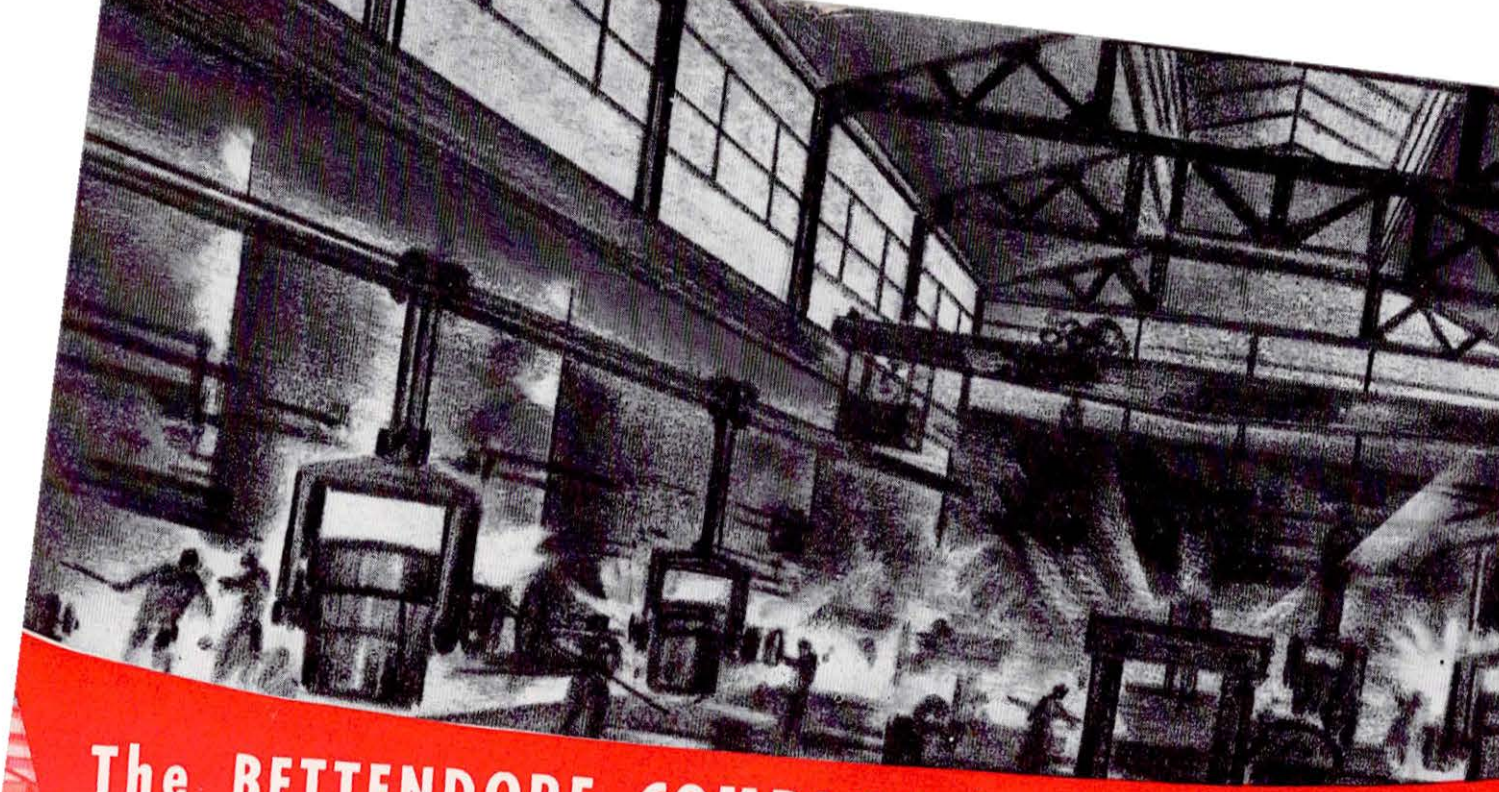


- Widest range locomotive in history.
- The postwar pacemaker.
- 110,000 miles of tryouts on 21 U. S. railroads.
- Fourteen months of proving.
- Full details in this issue.

GENERAL MOTORS LOCOMOTIVES

ELECTRO-MOTIVE DIVISION

GENERAL MOTORS LA GRANGE, ILL.



The BETTENDORF COMPANY has resumed the manufacture of high quality steel railway castings

WIDELY known to American railroads for more than fifty years, the originator of the one piece steel side frame, THE BETTENDORF COMPANY, BETTENDORF, IOWA, now is in a position to give prompt service on the high quality freight car steel castings for which the name "BETTENDORF" is recognized.

With adequate raw materials and with its old organization experienced in the production of quality castings for railroads, you are assured of prompt, efficient handling of your requirements.

Now equipped with both open hearth and electric furnaces, the foundry also is in a position to serve other users of steel castings.

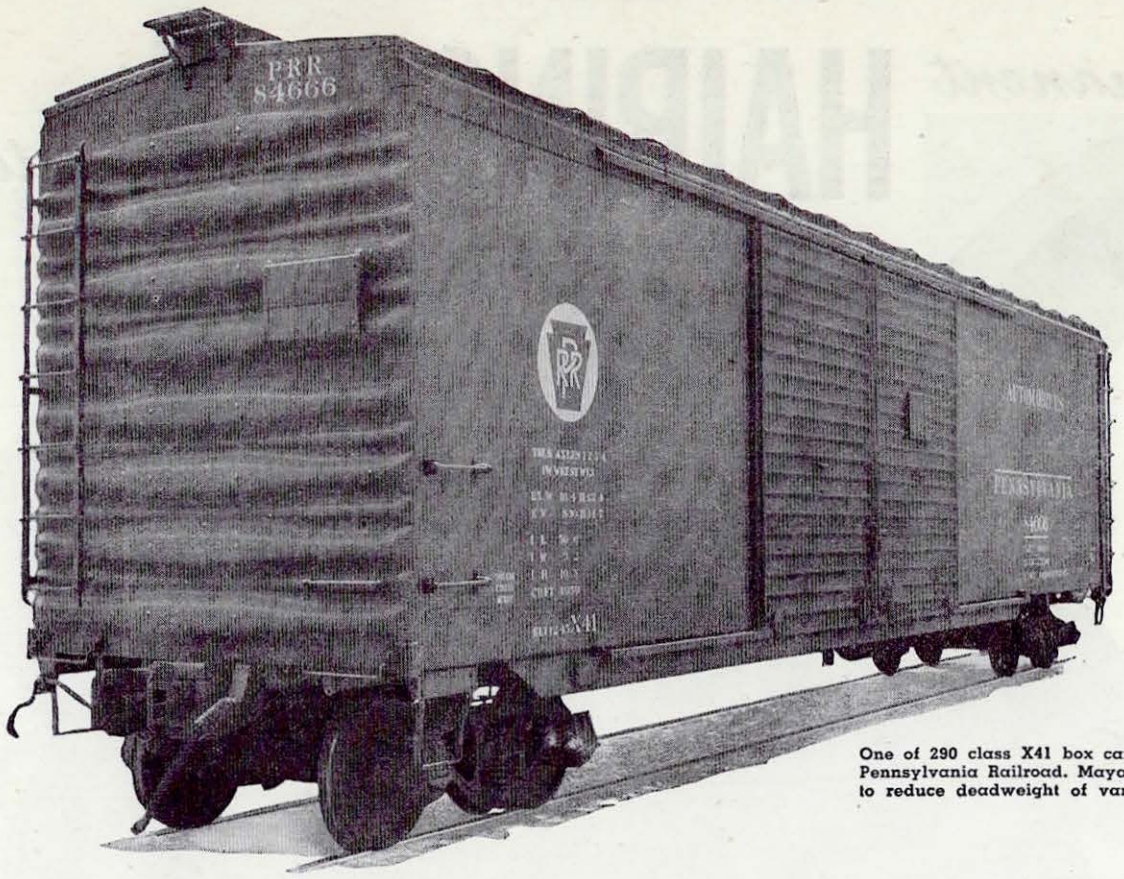
★ ★ ★

During the war, The BETTENDORF COMPANY devoted its efforts entirely to the production of vital equipment for the U. S. Navy.

U. S. NAVY

The **BETTENDORF** *Company*

BETTENDORF, IOWA



One of 290 class X41 box cars built by the Pennsylvania Railroad. Mayari R was used to reduce deadweight of various members.

High-Strength Steel Saved

975 tons of deadweight

Through the use of low-alloy, high-strength steel 6730 lbs. of deadweight was eliminated from each of 290 box cars built by the Pennsylvania Railroad—a total savings of 975 deadweight tons.

These automobile-type, class X41, 50-ft. cars weigh 1.36 lbs. less per cubic foot of capacity than previous cars built of ordinary carbon steel.

A considerable tonnage of Mayari R low-alloy, high-strength steel went into the construction of these cars.

Such weight savings are not uncommon where this steel is used. Because Mayari R has almost double the yield point of ordinary steel it may be used in lighter sections to cut weight without reducing strength. It has other advantages in its greater resistance to corrosion, impact, denting and abrasion —factors adding to the life of equipment.

In the shops Mayari R can be worked with the same equipment used for ordinary carbon steel. Only slight allowances need be made for its higher mechanical properties.

Compare the cost of Mayari R with that of carbon steel and take into consideration the fact that considerably less steel is needed, that great deadweight savings are effected—and you will see why so many roads are now turning to Mayari R.

BETHLEHEM STEEL COMPANY, BETHLEHEM, PA.

On the Pacific Coast Bethlehem Products are sold by Bethlehem Pacific Coast Steel Corporation

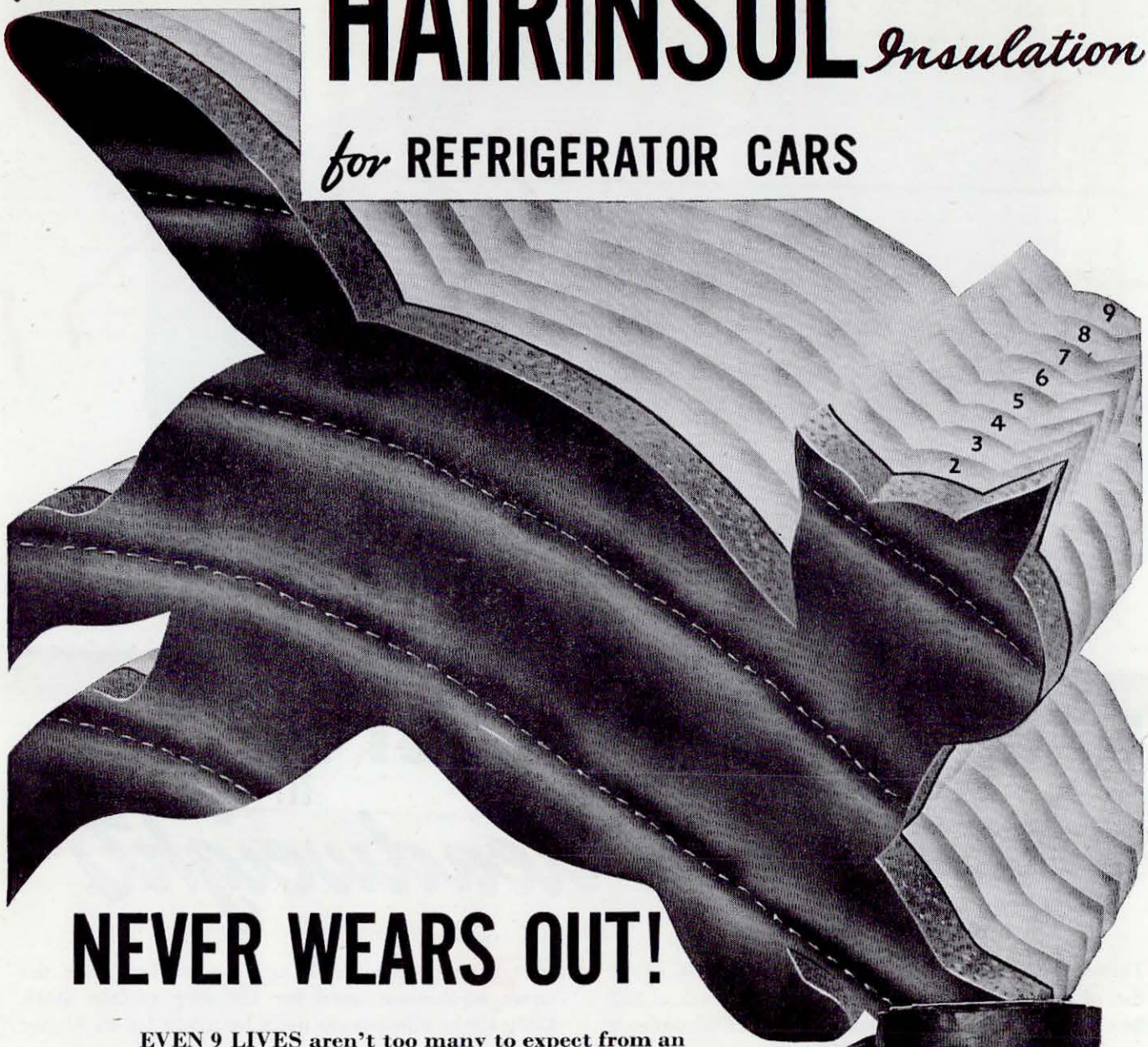
★ BETHLEHEM STEEL ★

Mayari R *makes it lighter...stronger...longer lasting*

Published weekly by Simmons-Boardman Publishing Corporation, 1309 Noble Street, Philadelphia, Pa. Entered as second class matter, January 4, 1933, at the Post Office at Philadelphia, Pa., under the act of March 3, 1879. Subscription price $6.00 for one year U. S. and Canada. Single copies, 25 cents each. Vol. 121, No. 17.

Permanent **HAIRINSUL** *Insulation*

for **REFRIGERATOR CARS**



NEVER WEARS OUT!

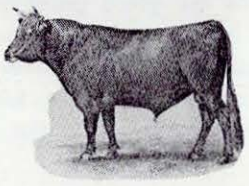
EVEN 9 LIVES aren't too many to expect from an insulation as durable as HAIRINSUL. You may use it again and again in refrigerator car installations of your own, and then, if you have no further use for it, you can sell HAIRINSUL back to us at the prevailing price of hair. That's because the insulating value of *all-hair* lasts forever. And remember . . . all the time that it's in your refrigerator cars, HAIRINSUL does a complete insulating job . . . saving ice, saving perishable lading, saving icing stops, saving money for you every mile every year. Write for samples and engineering data.

AMERICAN HAIR & FELT COMPANY

Dept. 6C-10, Merchandise Mart, Chicago 54, Ill.

Hairinsul

ALL HAIR INSULATION FOR REFRIGERATOR CARS



Hair Is Nature's Own Insulation...

It's nature's protective covering for animal life . . . it's a barrier against extreme outside temperature changes. HAIRINSUL is made of animal hair . . . one of the best reasons why HAIRINSUL is accepted as the finest of all insulating materials for refrigerator cars.

PRESSURE CASTINGS
are a Specialty of ours

These are for the OIL INDUSTRY

The strong and dependable steel castings that high pressure service requires—that's the kind of castings PSF is both well equipped and thoroughly accustomed to produce. You'll find plenty of evidence of that fact in PSF-built equipment now in service all through the oil refining, chemical and process industries, and the pump and turbine fields. But here's the essential point—ability and experience on the tough jobs is *your* best bet on any steel casting work, no matter what type of service is involved. • In other words, whatever the job is, put it up to PSF *first!*

Check us on
CONTRACT MANUFACTURING TO YOUR "SPECS"

Along with pressure castings, another specialty of ours is 100% finished and assembled work—sub-units or entire machines. Let us figure on your jobs, from the castings up.

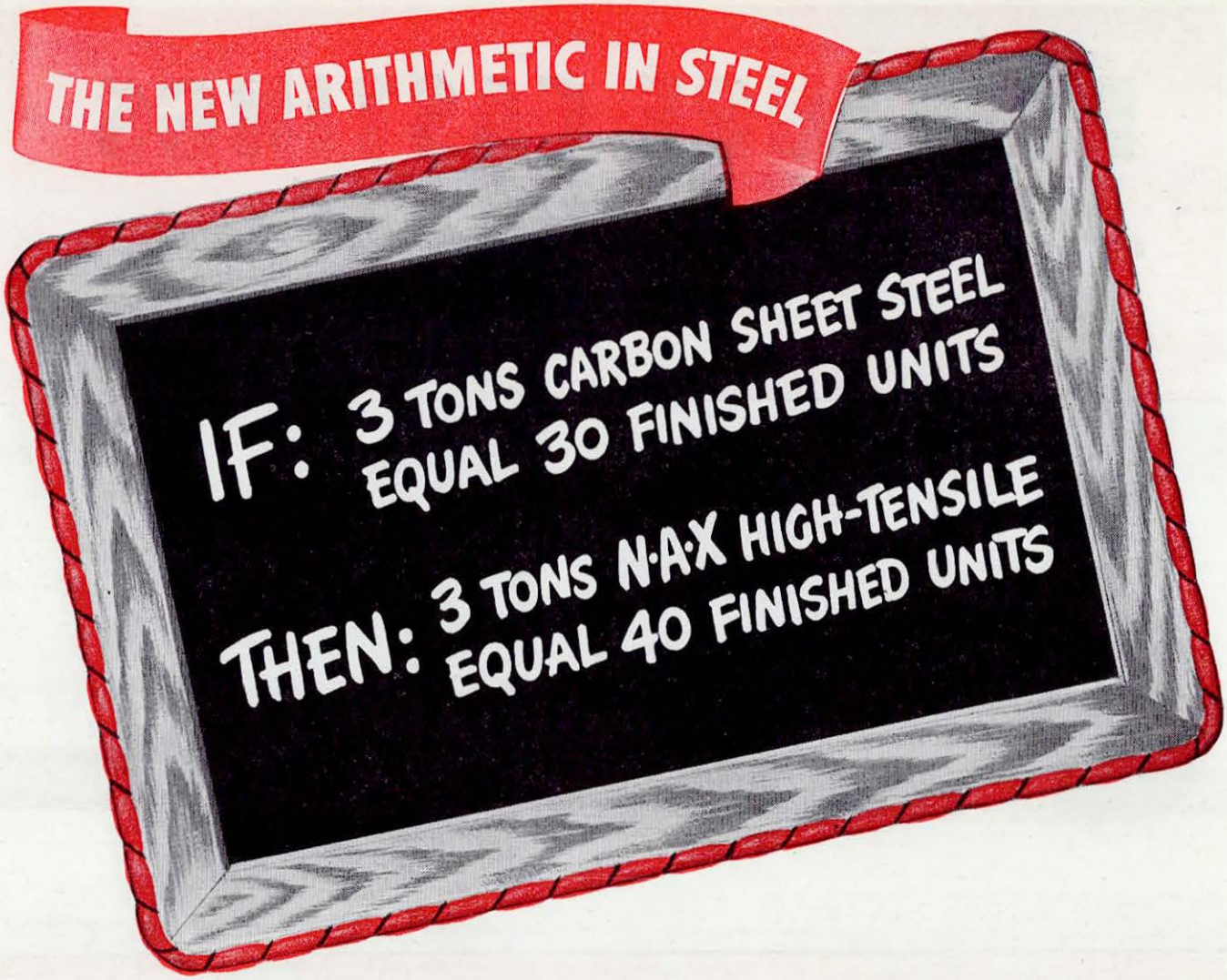
W & D 677

PITTSBURGH STEEL FOUNDRY CORP.
Glassport, Pa.

Plants:
Glassport, Pa. and McKeesport, Pa.

Sales Offices:
New York Chicago
Philadelphia Washington

48 YEARS OF STEEL CASTING KNOWLEDGE


THE NEW ARITHMETIC IN STEEL
IF: 3 TONS CARBON SHEET STEEL EQUAL 30 FINISHED UNITS
THEN: 3 TONS N-A-X HIGH-TENSILE EQUAL 40 FINISHED UNITS

A DEMONSTRABLE FACT: MANY USERS OF HOT AND COLD ROLLED SHEETS CAN INCREASE PRODUCTION OF UNITS 33% BY MAKING 3 TONS OF STEEL DO THE WORK OF 4

These days, the many production advantages of N-A-X HIGH-TENSILE steel are more important and more apparent than ever before.

With this low-alloy, high-tensile steel, you can use lighter sections . . . lighter, but of *equal* strength and *greater* durability. Lighter sections mean less steel per unit, more units per ton. Production of four units for every three units normally produced is a typical result.

Good formability permits N-A-X HIGH-TENSILE to be deep-drawn and formed to intricate shapes. At the same time, its greater corrosion-resistance, excellent weldability, high fatigue-resistance and great impact toughness bring both product improvements and production savings. Many fabricating, finishing and handling operations are simplified or eliminated.

The specific production increases and economies that can be effected in your plant through the use of N-A-X HIGH-TENSILE steel can be determined, of course, only by a study of your particular problems. Our metallurgists and engineers are at your service.

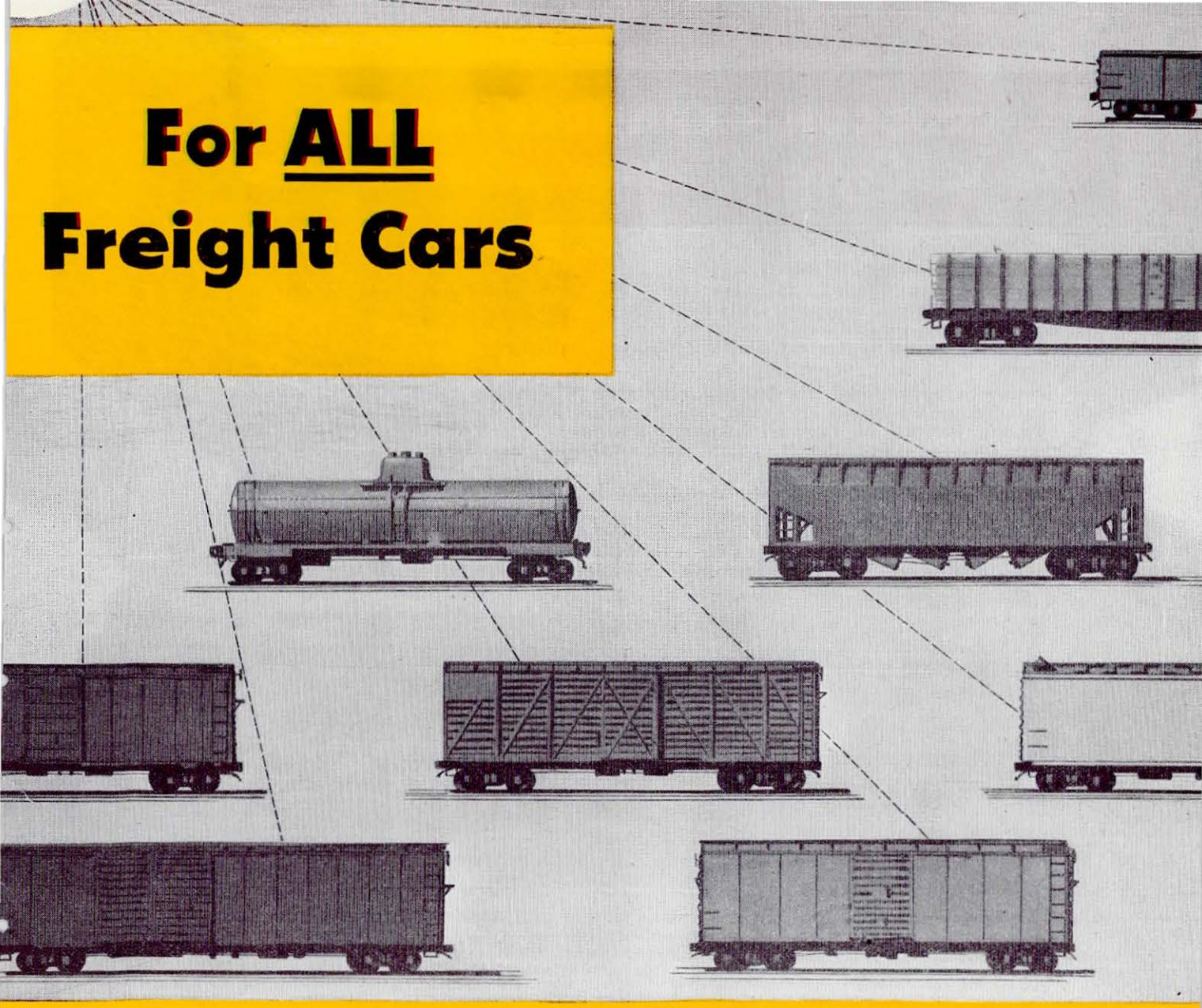
MAKE A TON OF SHEET STEEL GO FARTHER
Specify—
N-A-X
HIGH-TENSILE STEEL

GREAT LAKES STEEL
Corporation

N-A-X ALLOY DIVISION • DETROIT 18, MICHIGAN
UNIT OF NATIONAL STEEL CORPORATION

COPYRIGHT 1946
GREAT LAKES STEEL CORP.

For ALL Freight Cars



● *Lower lading damage!* That's a very good reason why softer, smoother Ride-Control Trucks are rolling on so *many* roads, today. Protection of pay load helps keep revenue on the rails.

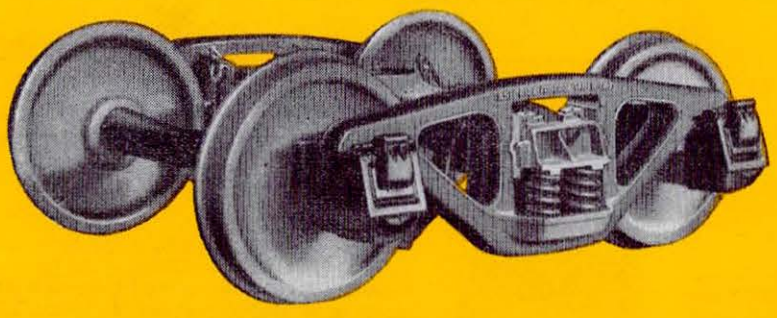
But no less important to profitable railroading is the protection these easy riding trucks give rolling stock and roadbed. From box express to hoppers—on *every* type of car, at *every* load and speed—A.S.F. Ride-Control Trucks are proving themselves an excellent investment in *operating economy.*

Millions of miles of better freight car service have been written into the records for Ride-Control Trucks. Already more than 40,000 car sets are in service or on order for 64 railroads and private car owners.

A·S·F *Ride-Control* TRUCK

NO SPRING PLATES • NO SPRING PLANKS

LONG SPRING TRAVEL • CONSTANT FRICTION CONTROL



AMERICAN STEEL FOUNDRIES

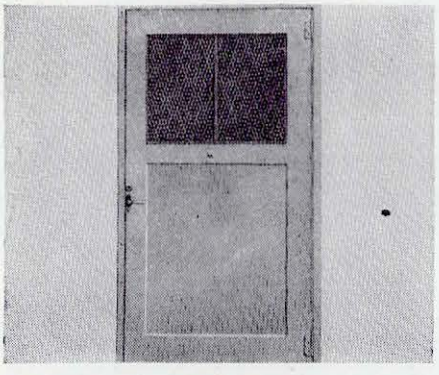
MINT-MARK OF ○ FINE CAST STEEL

TRUSCON EXPANDED METAL
the steel of a thousand plant services

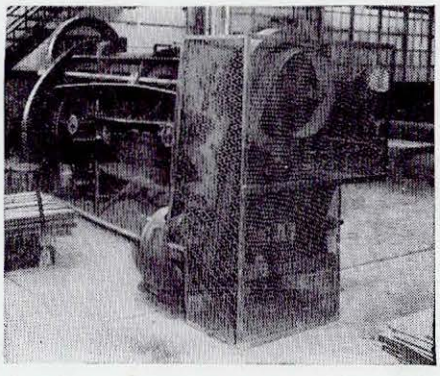
TRUSCON EXPANDED METAL is one of the best friends a Plant Engineer ever had. Light, strong, rigid, workable, easily formed or cut, it is used for an extremely wide range of essential services in America's manufacturing plants.

Truscon Expanded Metal is a diamond mesh fabric expanded into flat sheets from a solid plate of low carbon open hearth steel. The steel is cut and drawn so that regular and even diamonds are formed with uniform strands.

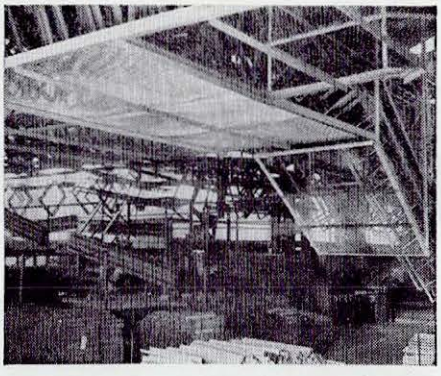
Truscon Expanded Metal is furnished plain, painted, enameled, bonderized or galvanized. Six applications for this metal mesh are shown below. Other suggested uses—to mention a few: tree boxes, refuse burners, hot air registers, air filter containers, louvers, waste baskets, radiator covers, truck body enclosures.



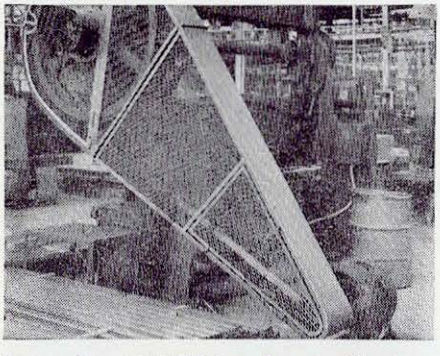
This Truscon Expanded Metal grid in a tool crib door provides visibility, protection and circulation of air, at a very low cost of material and installation.



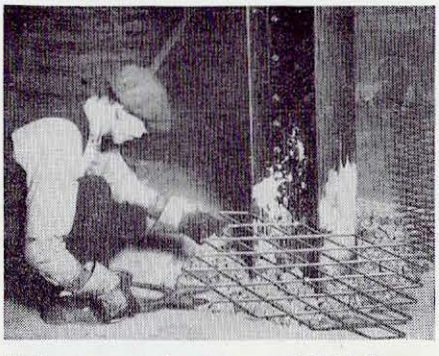
A safe Truscon Expanded Metal enclosure for this belt costs but a few dollars. It affords certain protection against costly shop accidents, lost man hours, reduces cost of insurance premiums.



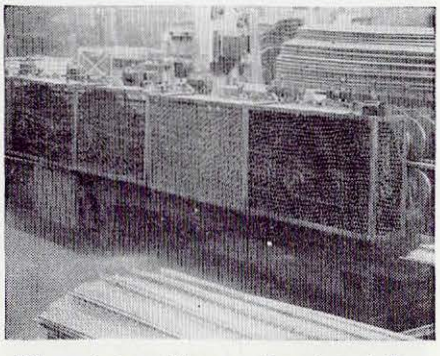
Workmen who must pass beneath overhead conveyor systems are insured against injury from falling objects by this safety net of Truscon Expanded Metal.



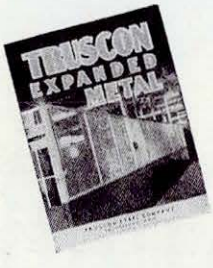
Truscon Expanded Metal can be cut with snips to any shape. This pulley and belt guard is an example of its flexibility in actual use. Machine repair men can easily disassemble this guard.



Perhaps you need a strong mesh fabric for reinforcing concrete flooring. Truscon Expanded Metal is manufactured in a variety of gauges and sizes according to job requirements.



All moving machinery and equipment in a plant is a constant hazard to life and limbs. Protect your employees with Truscon Expanded Metal for guards.

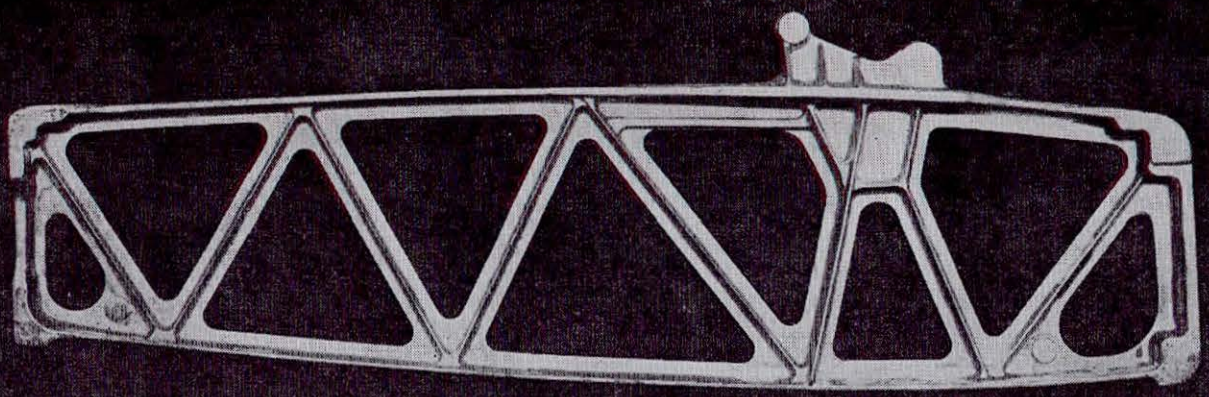


Write for Sales Bulletin No. B-420 for a description of the types and properties of Truscon Expanded Metal. Truscon Steel Company will gladly give engineering and designing assistance to your maintenance and safety engineer. This service involves no obligation.

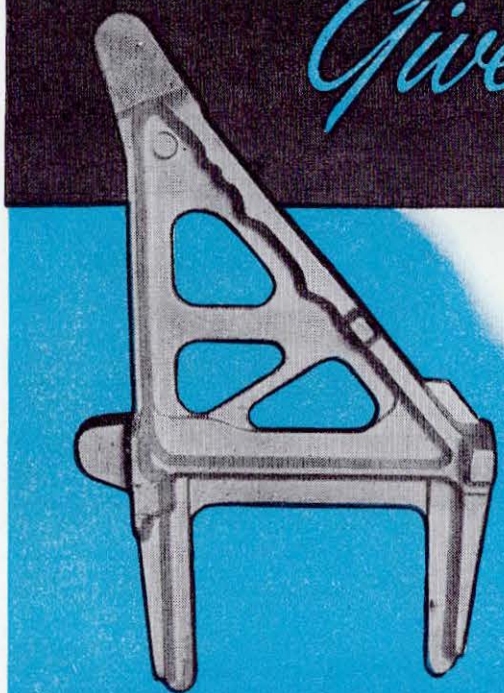
TRUSCON
Reg. U. S. Pat. Off.
Steel Company

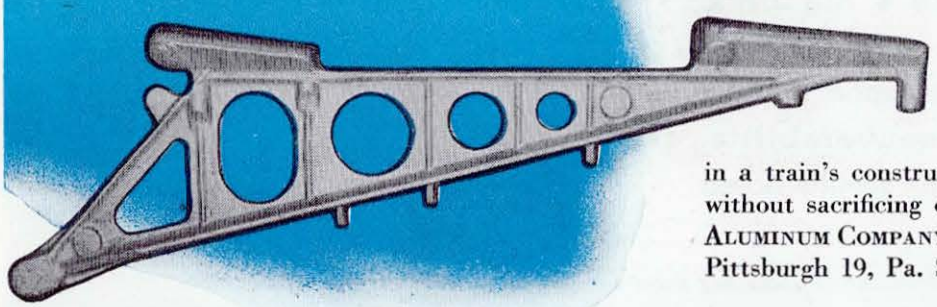
Youngstown 1, Ohio

Subsidiary of Republic Steel Corporation



DOES THIS 5 FOOT ALUMINUM FORGING *Give You Ideas?*





These aren't railroad forgings. But all through the history of aluminum's development, parts like these made for one industry have served to give ideas to another. Consider them against railroad needs:

Size? They're big, massive parts, capable, because of their grain structure, their choice of alloy, their design, of taking plenty of punishment. *Shape?* Their complex shape shows that you need not feel restricted in designing forgings of Alcoa Aluminum. *Plus* aluminum's exclusive advantages of light weight and corrosion resistance.

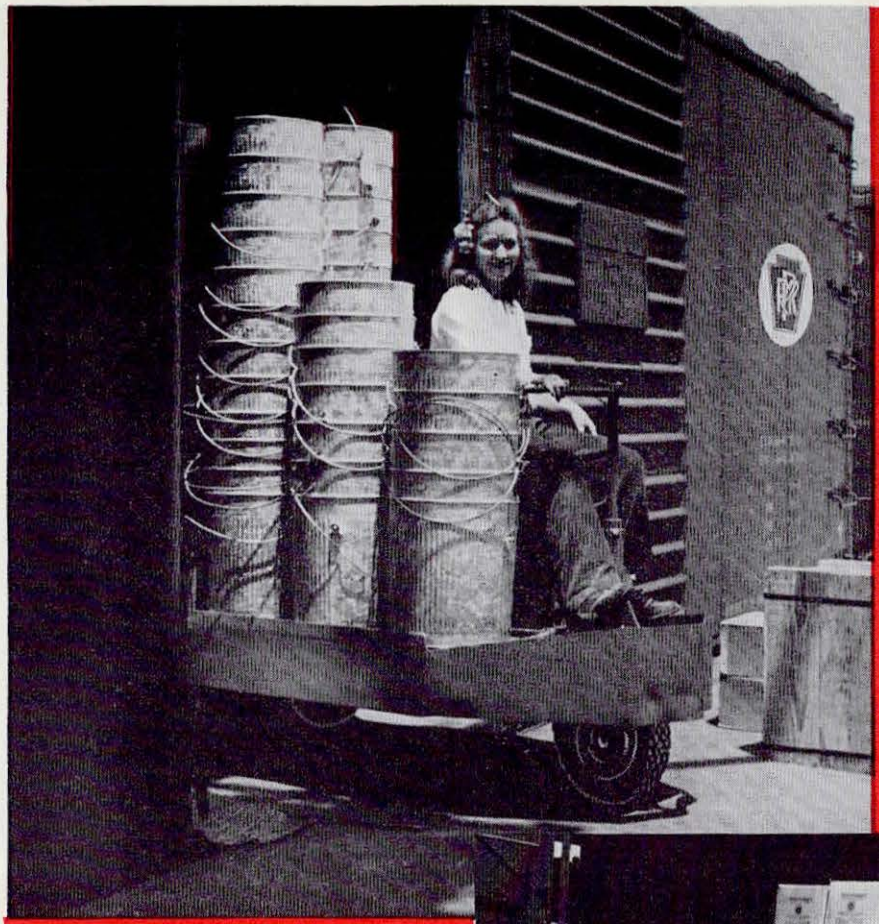
Forgings of Alcoa Aluminum offer the railroad industry advantages like these: in reciprocating parts, like locomotive crosshead slippers (where they are already used widely) aluminum's light weight reduces inertia. Used in trucks, (side frames, for example) they reduce unsprung weight and roadbed punishment. Used anywhere in a train's construction, they reduce dead weight without sacrificing one iota of strength or safety. ALUMINUM COMPANY OF AMERICA, 2178 Gulf Bldg., Pittsburgh 19, Pa. Sales offices in principal cities.

ALCOA FIRST IN **ALUMINUM**

REG. U. S. PAT. OFF.

ALCOA ALUMINUM

IN EVERY COMMERCIAL FORM



25 Chore Boys produce estimated yearly saving of $27,000 for L. C. L. Freight Handling

ABOVE: Graphic demonstration of the Chore Boy's maneuverability in congested areas.

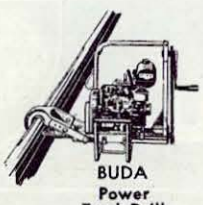
RIGHT: Here's how the Chore Boy handles large, bulky freight—at greater speed, yet with less breakage.

These savings are attributed to the Buda Chore Boy's 4 big basic features: speed . . . low operating cost . . . low maintenance cost . . . and extreme maneuverability. Here are some of the results noted in actual operation:

- **Substantial reduction in platform costs.**
- **Considerable increase in tons handled per trucker hour.**
- **Increase in tons per checker hour.**
- **Decreased physical strain on workers . . . fewer absentees.**
- **Facilitated loading and unloading . . . less damage to freight itself.**

Are you taking full advantage of Chore Boy possibilities? Call or write for complete details.

BUDA
Track Jacks



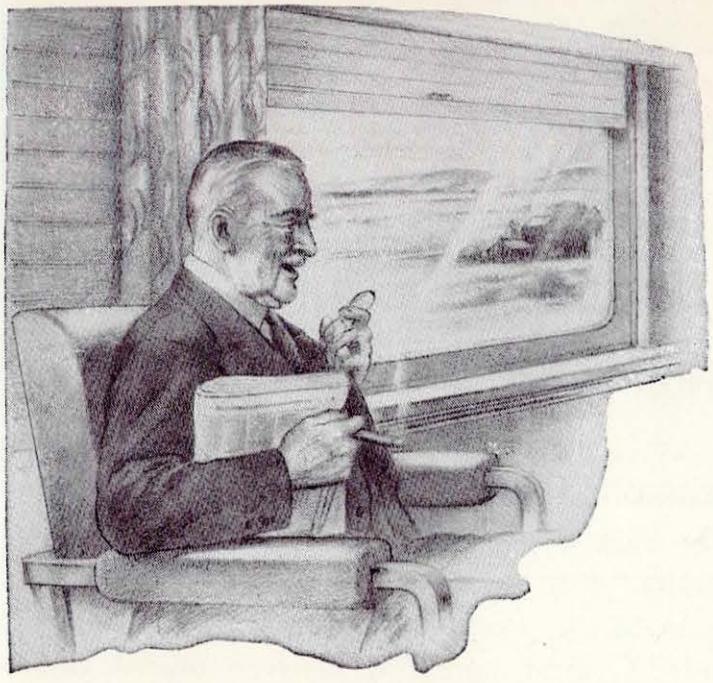
BUDA
Power
Track Drill

BUDA

15401 Commercial Avenue
HARVEY (*Chicago Suburb*) ILLINOIS

BUDA
Rail Bender

BUDA
Track Liner



Let the People Know

says

R. R. Rider

(Number sixteen in a series)

I've been noticing the railroads' publicity; not that of individual roads, but that of the Association. For a long time it seemed to me to be on the wrong track. For instance, all the ads I saw harped on a single point—how indispensable railroads are. Certainly a truth, but a truth most people already believe in, thanks to the railroads' great war record. But lately the campaign has really gotten down to cases. It's telling people about specific things that hurt the railroads; things like unfair competition. A good example is a recent ad which asks "Which pays its own way?" It's one of the simplest and most informative advertisements I've ever seen.

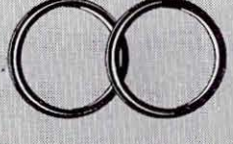
There is a lot of educating to be done along this line, for the railroads are up against a serious proposition and the only thing that can help them is to get the public strongly on their side. If I were handling the job I wouldn't overlook a single chance to spread my story, and I'd get in my best licks with the people right on this train. Talk about being receptive! They've all settled down to the trip and you'll notice that a lot of them have run out of things to do. Some are just gazing idly through the window. Now there is one thing every traveler is curious about—at least mildly so, the country he's passing through. I've ridden a few trains on which passengers were given a descriptive folder about what they saw through the window and it was usually read with interest. If this were done more generally it would be a good chance to include some simple facts about railroad economics and the competitive situation, told in a way that would make people realize that the railroads' problems were their problems too. I think such an effort would bear fruit, for it would reach the kind of people who should be most concerned about the railroads' well-being.

Edgewater

Serving America's Railroads

RING SPRING DRAFT GEARS

ROLLED STEEL WHEELS



LOCOMOTIVE TIRES

EDGEWATER STEEL COMPANY • PITTSBURGH, PA.

Atlanta — Baltimore — Boston — Chicago — Cleveland — Kansas City — Louisville — New York
Philadelphia — St. Louis — St. Paul — San Francisco — Seattle — Washington, D. C.

Saves 43% of Operating Costs

44-ton diesel-electric saves 75 per cent in fuel costs alone

Amador Central Railroad's figures for a nine-month period show total operating costs, less train crew expense, of $4076.35 for a steamer, formerly used. For a similar nine-month period, the diesel-electric's total operating costs were $2312.19—a saving of 43 per cent.

In June, 1945, the Amador Central, operating between Martel and Ione, Cal., replaced the steam locomotive with a 44-ton diesel-electric. Specially geared for gruelling service over rugged mountain territory, the 44-tonner has already shown a saving of 75 per cent in fuel costs and an availability of 99 per cent. Moreover, the diesel-electric required refueling only once every 48 hours, instead of every trip. In reviewing this record, Amador Central's managing superintendent sums up in two words—"Power plus!"

Used primarily to haul forest products and finished lumber, the 44-tonner also hauls oil, copper and gold ore, fire brick, lime rock, and clay shipments. The diesel-electric negotiates stiff grades of 4 per cent, and a three-mile sustained grade of 3½ per cent. Twenty-three degree curves, with 252-degree curvature per mile of road accompany an increase of 1200 feet in altitude.

This locomotive has "power plus" for light traffic work. With an availability of 95 per cent or better, it can do more work for you in less time—at a substantial reduction in operating costs. Our engineers will be glad to cooperate with yours in a motive-power study to determine its earning power for you.

Alco GE

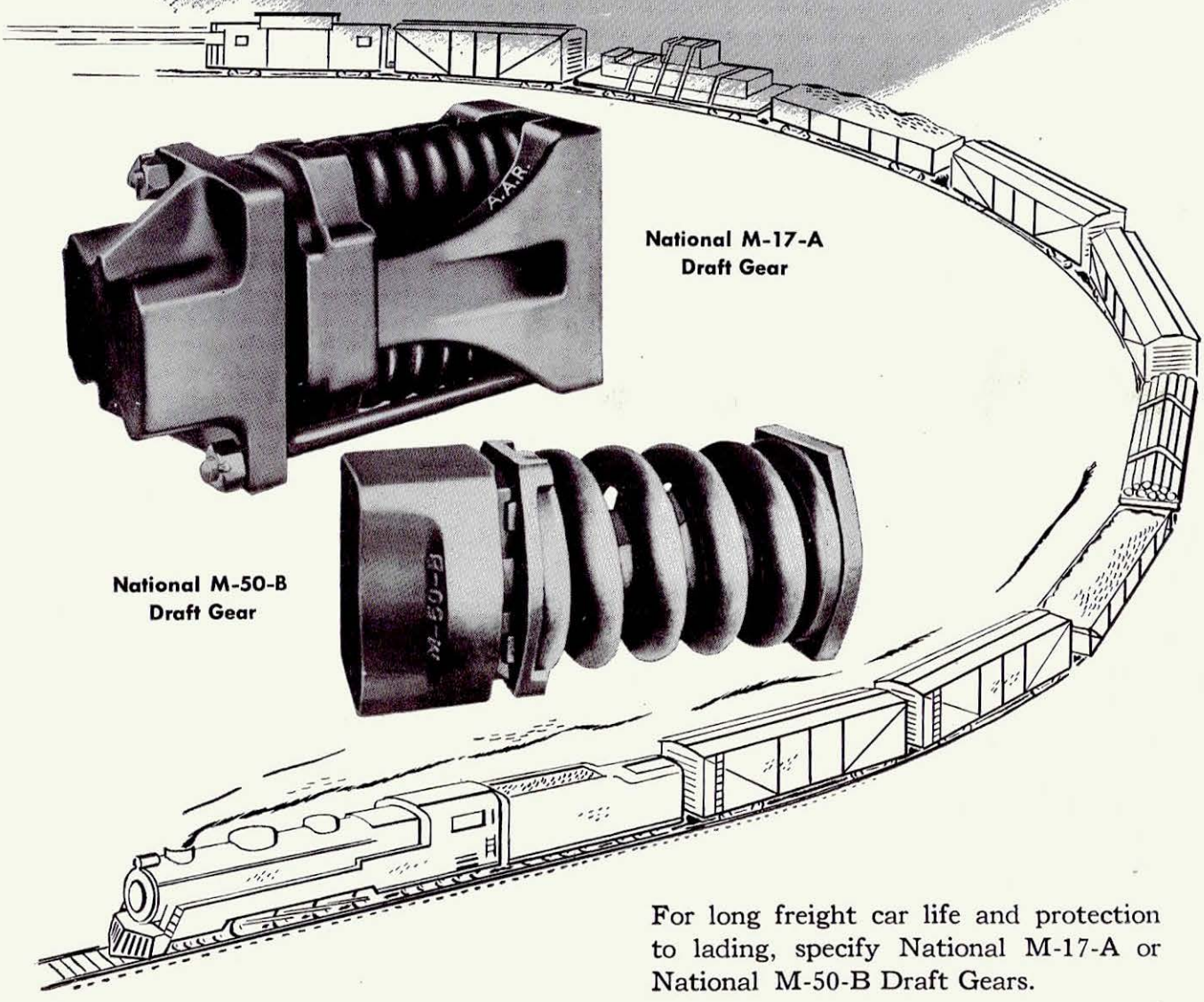
AMERICAN LOCOMOTIVE

44-ton diesel-electric, hauling finished lumber and other products over a trestle on the Amador Central Railroad. There are eleven of these trestles in the 11.8 miles of track, one of which is 68 feet high and 375 feet long.

and GENERAL ELECTRIC

"Insurance" FOR YOUR FREIGHT CARS . . .

NATIONAL DRAFT GEARS ARE "LADING CONSCIOUS"



National M-17-A Draft Gear

National M-50-B Draft Gear

For long freight car life and protection to lading, specify National M-17-A or National M-50-B Draft Gears.

M&S Co.

EST. 1868

NATIONAL

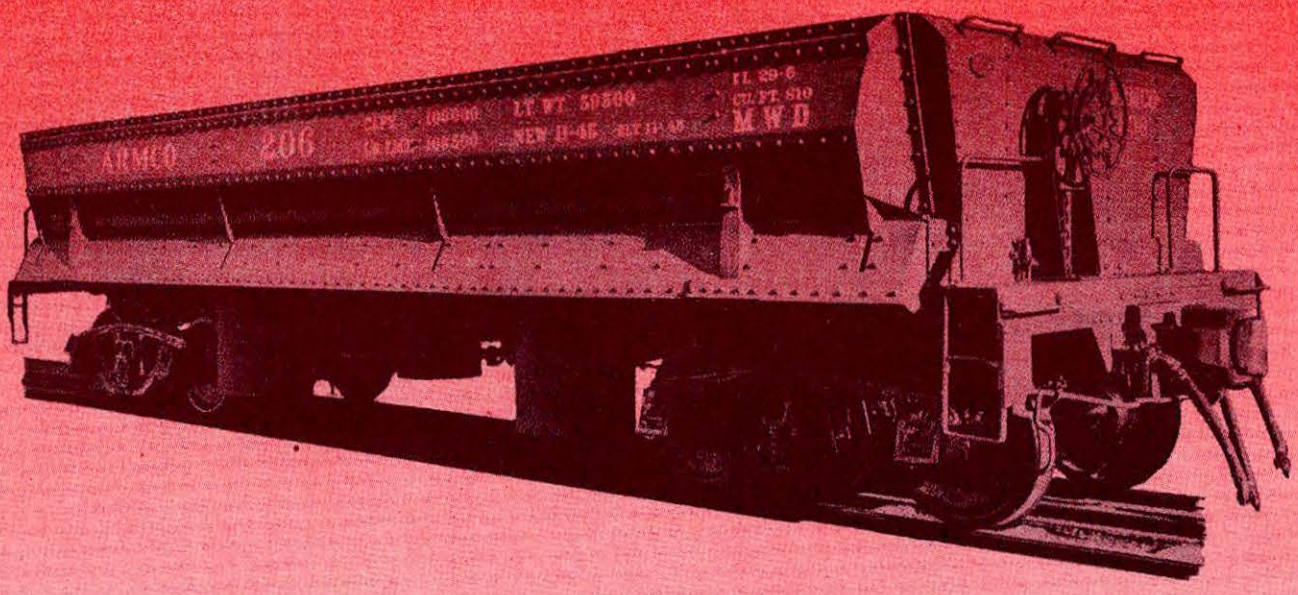
MALLEABLE AND STEEL CASTINGS COMPANY

CLEVELAND, OHIO

Sales Offices: Cleveland, Chicago, New York, Philadelphia, Richmond, San Francisco, St. Louis.

Works: Cleveland, Chicago, Indianapolis, Melrose Park, Illinois, Sharon, Pa.

Magor



Designers and Manufacturers of Freight Cars of All Types Including Air Dump Cars

MAGOR CAR CORPORATION

50 Church Street

New York 7, N. Y.

FORGED

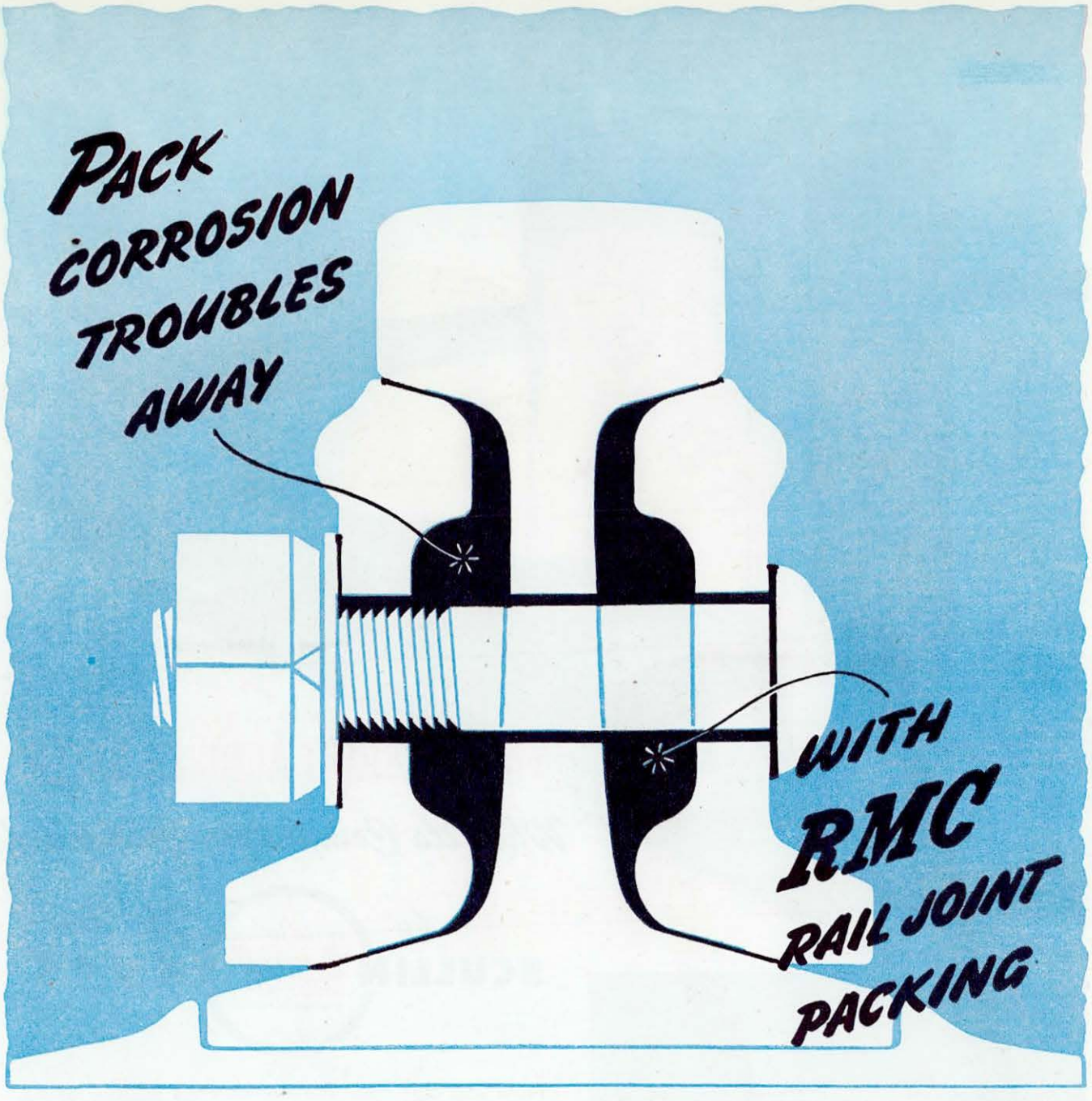
A Working Team to a RIPE OLD AGE

Schaefer wear plates and loop hangers are forged from quality carbon steel, heat treated and quenched at the correct temperature to produce equal hardness of all wearing surfaces. Balanced wear—longer life—lower cost per year of service. Specify Schaefer. Write for Catalog 445.

Schaefer

SCHAEFER EQUIPMENT COMPANY • • • KOPPERS BLDG. PITTSBURGH, PA.

PACK CORROSION TROUBLES AWAY



WITH RMC RAIL JOINT PACKING

One application of RMC Rail Joint Packing stops rail joint corrosion for the life of the joint. It is the modern method of permanently protecting rail joints and has been used successfully on millions of them by leading roads. In addition to preventing corrosion, RMC Packing assures that properly tensioned bolts will not "freeze" the joint and cause kinked or humped track. Write today for complete information.

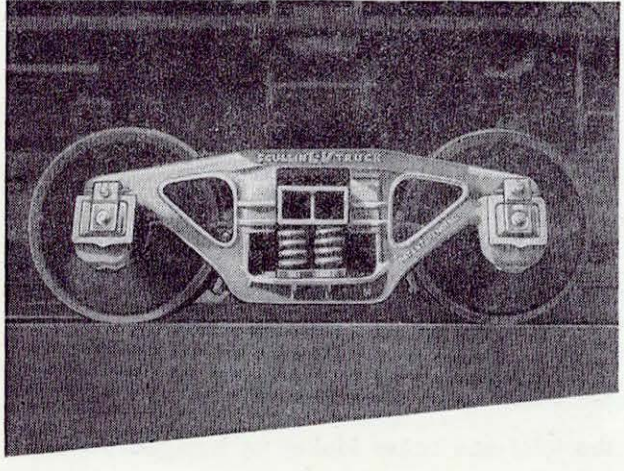
RAILWAY MAINTENANCE CORP.

PITTSBURGH 30, PENNSYLVANIA

FAST FREIGHT ARRIVES SAFER

When it's Completely Cushioned

by **SCULLIN** LATERAL-VERTICAL **L-V** CUSHIONED MOTION **TRUCK** *The New*



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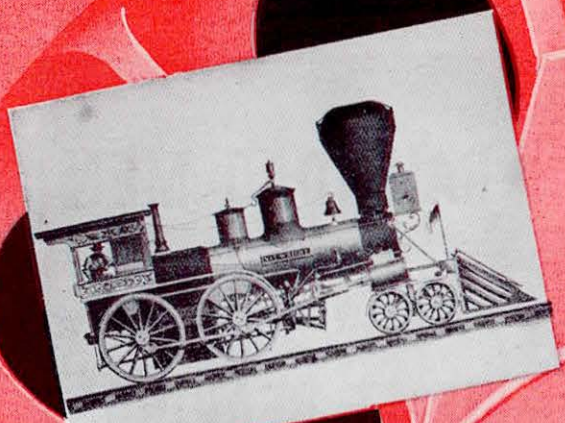

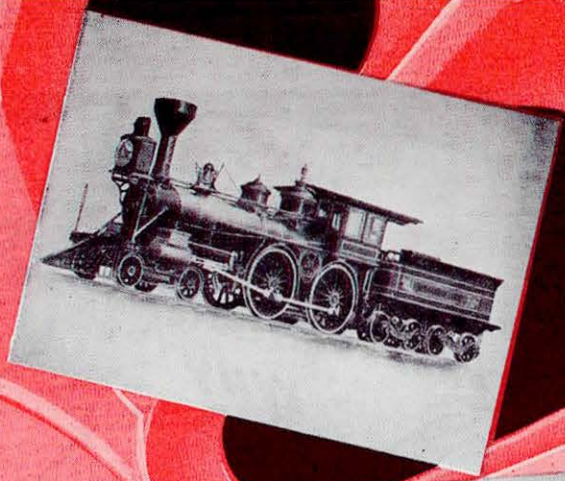

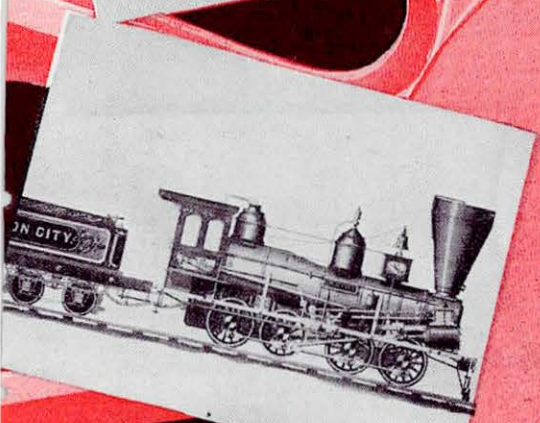

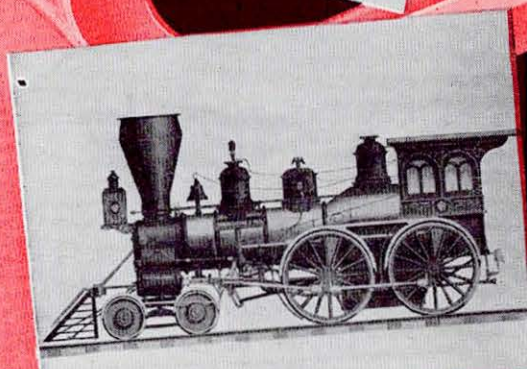

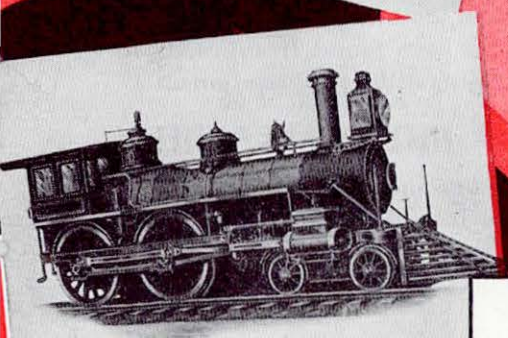

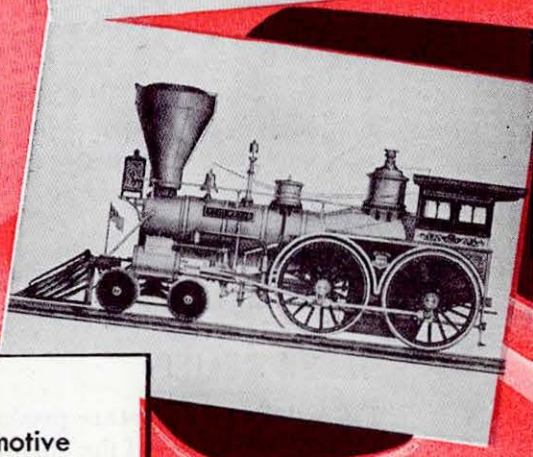

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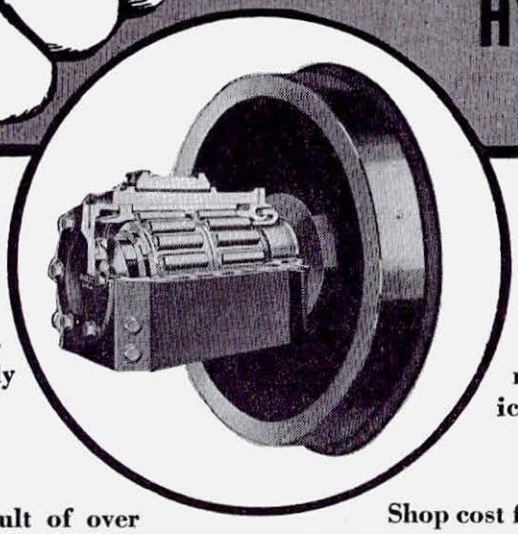

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Vol. 121 October 26, 1946 No, 17

PUBLISHED EACH SATURDAY BY THE SIMMONS-BOARDMAN PUBLISHING CORPORATION, 1309 NOBLE STREET, PHILADELPHIA 23, PA., WITH EDITORIAL AND EXECUTIVE OFFICES AT 30 CHURCH STREET, NEW YORK 7, N. Y., AND 105 W. ADAMS STREET, CHICAGO 3, ILL.

WASHINGTON 4, D. C.: 1081 NATIONAL PRESS BUILDING—CLEVELAND 13: TERMINAL TOWER—SEATTLE 1: 1033 HENRY BUILDING—SAN FRANCISCO 4: 800 MONTGOMERY STREET, ROOMS 805-806—LOS ANGELES 14: 530 WEST 6th STREET—DALLAS 4: 2909 MAPLE AVENUE.

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SUBSCRIPTIONS, INCLUDING 52 REGULAR WEEKLY ISSUES, AND SPECIAL DAILY EDITIONS PUBLISHED FROM TIME TO TIME IN NEW YORK OR IN PLACES OTHER THAN NEW YORK, PAYABLE IN ADVANCE AND POSTAGE FREE. UNITED STATES, U. S. POSSESSIONS AND CANADA: 1 YEAR, $6.00; 2 YEARS, $10.00; FOREIGN COUNTRIES NOT INCLUDING DAILY EDITIONS: 1 YEAR, $8.00; 2 YEARS, 14.00. SINGLE COPIES, 25 CENTS EACH. H. E. McCANDLESS, CIRCULATION MANAGER, 30 CHURCH STREET, NEW YORK 7.

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Designed to meet railroad needs for flexible performance and adaptability to a wide variety of passenger and freight duty, this locomotive has interchangeable parts which make for simplified maintenance.

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Discusses economics of signaling, changes in practices and new developments.

Unusual Methods for Big Trackwork Job **684**

A description of the complete pre-assembling and installing, with the aid of a lifting frame adapted from an old truss, of twenty-seven special units for a busy Chicago crossing.

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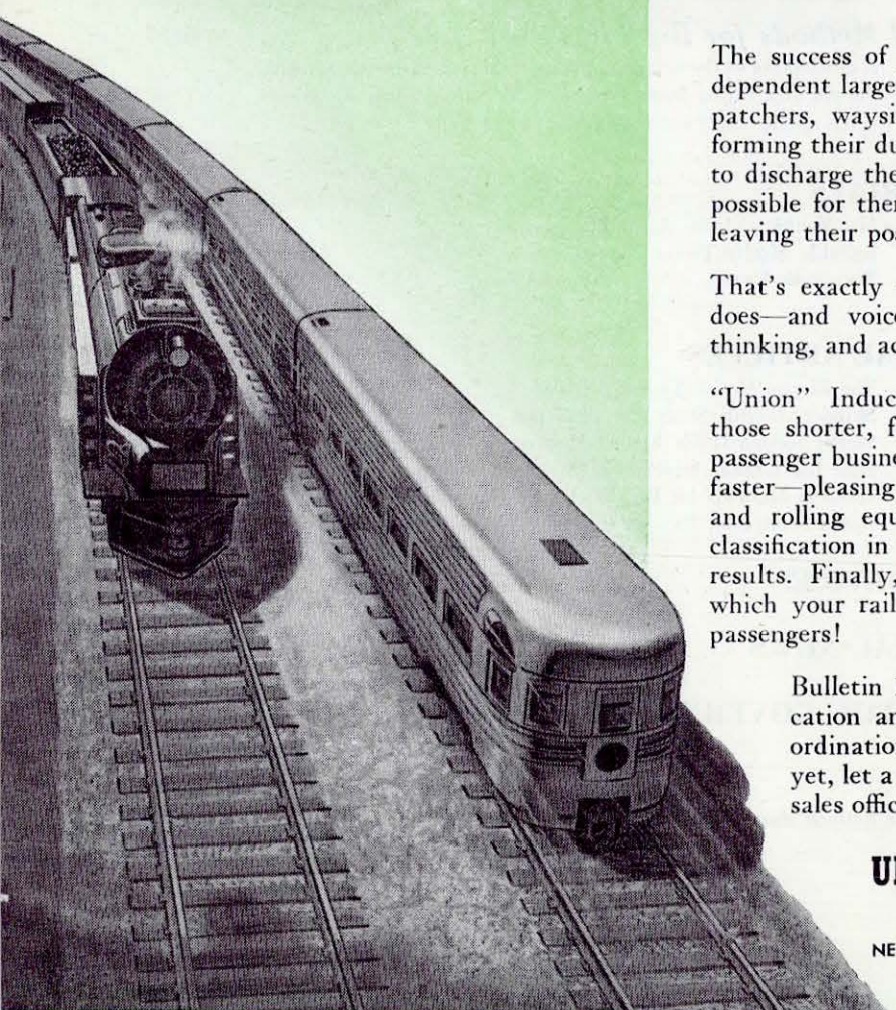
Closer co-ordination for Better Railroading...

with "UNION" I.T.C!



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The Week at a Glance

FREE AGENTS: The reasons given by Chairman Young of the C. & O. for the withdrawal of the three roads in that group from the A. A. R. are analyzed in our leading editorial. Whether or not the association always has done everything it could have done and should have done to promote the interests of the owners of the railroads, it nevertheless is a fact that its responsibilities and powers have definite limits, and its face need not be too red if it is accused of respecting those limitations. One of the virtues of the terms under which it functions is the freedom of choice and initiative and expression and action left to the individual railroads—freedoms of which Mr. Young has repeatedly availed himself, generally to his advantage and the advantage of the railroad industry.

●

THE BROTHERS ARE COY: Despite the action of the C. & O. lines, the practical indispensability of the A. A. R., or an organization like it, seems to be pretty obvious, and the so-called Young roads retain their affiliation with the others for car service and comparable purposes. However serious this cleavage in the ranks of railroad management may appear to be, it certainly is less definite, and less far-reaching, than the long-lived schism in the railroad brotherhoods—yet these unions, for all their disagreements among themselves, their challenges of the honor and virtue of the leaders of other unions, seem to be able to keep up a fairly consistent record of success when it comes to exacting higher pay and other concessions from management. As the brotherhoods are so evidently unwilling or unable to work together for their own purposes, it seems more than doubtful if they will be eager to work together with management and security holders for the common good. If Mr. Young can manage this phenomenon in cooperation, he will have done something to write home about.

●

GREYHOUND GROWS: Commissioner Splawn doesn't like the "blank check" which (he says) a majority of the I. C. C. has issued to the Greyhound bus organization to "monopolize" that form of transportation by the simple process of assimilating competitors or connections. But Greyhound nevertheless has been permitted to acquire the principal bus operator in Florida, to take over a 530-mile Ohio system, and to relieve one of its affiliates of a stub-end operation. Details appear in the news pages.

●

SHIPPERS' SENTIMENTS: The nation's shippers recognize the need for earnest effort on their part to alleviate the consequences of the current shortage of freight cars. If further evidence of this had been required, it was abundantly available in the proceedings of the National Association of Shippers Boards, whose St. Louis meeting this week is the subject of an article in this issue's feature section. But it is equally clear that the shippers expect the railroads to buy new cars, and to buy them in sufficient quantity and with sufficient speed to accommodate their reasonable demands in the near future. They quite properly hold government agencies largely responsible for the scarcity of materials from which cars can be built, but it does not follow that they consider domestic railroads thereby relieved of their responsibility to place sufficient orders and to turn on the heat in getting those orders filled.

●

AGAIN AND AGAIN—: A final summing up of the railroads' case for a freight rate increase has gone to the Interstate Commerce Commission in the form of a brief filed by the A. A. R.'s legal staff. Its principal arguments are outlined in a news story herein. While the facts, and the earnings estimates derived from them, lend no support whatever to the hypothesis that the railroads might accidentally, in some halcyon time to come, make more money than they have any right to make, there is nothing to prevent the commission from cutting rates if that should happen, say the carriers. And meanwhile—even though their business is of record proportions for peace times—their need of more revenues is desperate. The commission has been told these simple truths so often recently that its patience might be expected to run short at their reiteration, but its patience is surpassed by the obduracy with which it delays the relief the railroads' situation urgently requires.

●

O.D.T. ORDER 1 EASED: One of the shortcomings of statistics, or at least of the human users of statistics, is the subject of comment by Chairman Kendall of the Car Service Division in his latest survey of the freight car supply situation, reviewed this week in the news columns. That is the tendency to make a good record for the books in the way of high average loads of l.c.l. freight, even if cars have to be held to do it. Just recently, he explains, the O.D.T. has relaxed its maximum-load rules on l.c.l., and faster turnaround of cars is expected to result, both because they can be started on their way sooner and because congested intermediate terminals can be by-passed more frequently.

●

SIGNAL SECTION: The first annual meeting since 1941 of the A. A. R. Signal Section is reported on page 680. Particularly timely among the various committee reports and special papers were the data on the economics of signaling, many of which are summarized in our article. Significant evidence is included of the dollars-and-cents advantages of centralized traffic control over alternative means of increasing track capacity, such as double track or straight automatic block.

●

INFORMED FOREMEN: It's well recognized, of course, that it is very much harder to assemble supervisory personnel in one place, or even in a few convenient places, on a railroad to inform them of the progress and the problems of their company and the industry, than it is in a mill or a mine. What is being done on one road to overcome this occupational hazard is outlined in an article this week.

ALL-PURPOSE F-3: The latest development of the Electro-Motive version of the Diesel-electric road locomotive is described this week in an illustrated article. With four units each developing 1,500 hp. for traction purposes, and with dynamic brakes as optional equipment, it can be adapted to fast passenger or freight service or heavy-duty, mountain-territory operation merely by appropriate variations of the gear ratio. Even though this new model shows numerous differences from its predecessors, it can be used interchangeably with the previous standard 1,500-hp. design. Its four-wheel power trucks permit the locomotive to negotiate a 21 degree curve, and a new method of load suspension is said to result in better riding and improved stability.

●

TIME TO RETIRE: With new power of this caliber, both Diesel and steam, all wrapped up waiting for orders, as one of our editorials puts it, it is difficult to find a logical explanation for the maintenance on any railroad of large numbers of obsolete or obsolescent locomotives which not only are costly to run but also are more or less dubious luxuries from the availability viewpoint. Interest rates are almost phenomenally low, and railroads are experiencing no difficulty in finding capital to finance new equipment, however poor their general credit standing may be. In the face of these and all the other arguments that can be marshalled to justify ruthlessness in scrapping outmoded power, the burden of proof would appear to rest on those who continue to struggle along with the same old engines grandpa used, and to resist suggestions that they no longer are good enough.

●

COMPLICATED CROSSING: This issue's engineering article is a description by T. H. Beebe of the North Western of a job of track renewal that stands out both because of the difficulties arising from its size and location and also because its successful accomplishment so strikingly illuminates the advantages in any major railroad undertaking of full understanding and cooperation between all the departments and all the roads in any way concerned. The significance of this accomplishment in coordination is the subject of editorial comment. Diagrams and pictures illustrating the article (page 684) emphasize the variety of opportunities for things to go wrong while the work was in progress—but they didn't go wrong, because the work was planned all the way through, and everybody who had a part in it understood what his part was.

●

MECHANIZED R.E.A.: No other private organization approaches the Railway Express Agency's record of averaging ten million handlings of shipments daily, says its Chief Engineer Peterson in one of this issue's feature articles. Among the mechanical equipment that makes such a volume of business possible are fork lift trucks, tractor-trailer trains, movable roller conveyors, overhead chain conveyors, packing containers and power-operated drop frame trucks.

"STANDARD" PRODUCTS ON ALL TYPES OF FREIGHT EQUIPMENT ALWAYS GIVE SATISFACTION.

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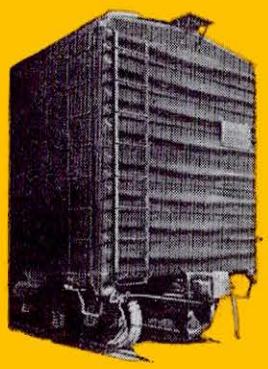
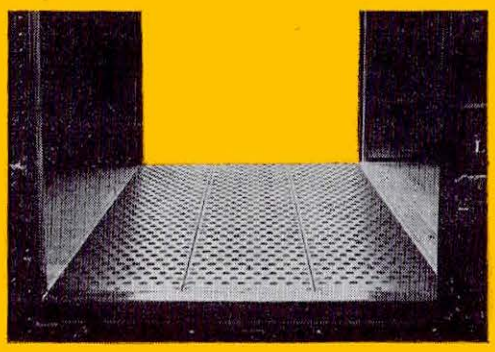
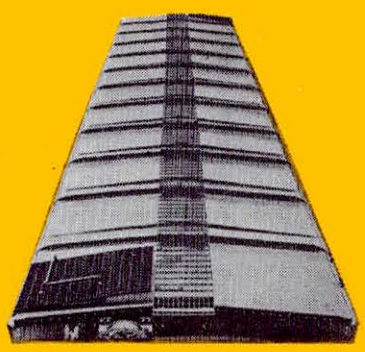


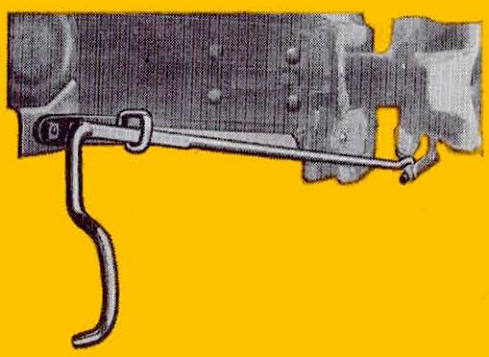
IMPROVED DREADNAUGHT STEEL END



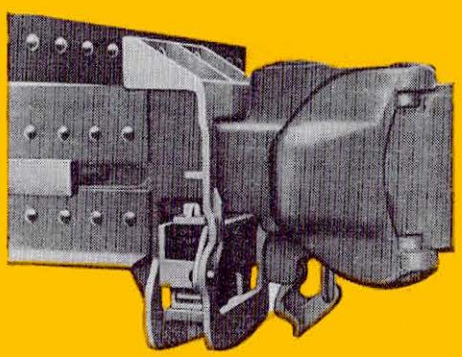
METAL FLOOR PROTECTOR



MURPHY IMPROVED RIVETED ROOF



"STANDARD" SAFETY UNCOUPLING DEVICE



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RAILWAY AGE

Mr. Young and the A. A. R.

The withdrawal of the Chesapeake & Ohio and other railroads controlled by Robert R. Young from membership in the Association of American Railroads, and the reasons given by Mr. Young for this action, have attracted widespread attention and caused much discussion and speculation outside as well as inside the railroad industry. In announcing the action Mr. Young said he "was inviting the constructive elements of the railroad industry to consider the creation of a new organization to include railroads, railroad security owners and railroad labor to promote free competitive enterprise in the interest of the public, the railroads, their employees and the nation's business." The railroads controlled by Mr. Young propose to remain parties to the Car Service and Per Diem Agreement and certain other agreements requisite to enabling the railroads as a whole to operate as, in effect, a single continental system.

Freedom to Fulminate

Mr. Young now holds a virtually unique position in the railroad industry. As was formerly true of such men as James J. Hill and E. H. Harriman, but unlike most railway chief executives today, he has financial control of the important group of railways in the management of which he actively participates. He can, therefore, speak and act forthrightly regarding every phase of financing, management, labor relations and regulation without fear of possible repercussions from financial quarters. That he has done and is doing so in ways that have been and should be in future helpful to the railroad industry as a whole cannot be questioned by anybody who is willing to do him justice.

He rightfully claims credit for the recent initiation of through passenger service from coast to coast. His recent criticisms of the Interstate Commerce Commission for its protracted delay in authorizing adequate advances in freight rates, resulting in the railroads suffering severely month after month from wholly inadequate net earnings, have been entirely justified and constructive. The *Railway Age* shares and has editorially expressed the opinion expressed by Mr. Young that the railways should have done much more than they have to present their case for higher rates to the public as well as to the Commission. The *Railway Age* began denouncing the Commission long before Mr. Young did for adopting plans for the reorganization of bankrupt railroads involving indefensible confiscation of railway securities; and this paper believes that the railways should unitedly have adopted a policy years ago of opposing this wholesale confiscation.

The *Railway Age* could not, however, without repudiating its past editorial policy, agree with some of Mr. Young's criticisms of railway management in general and of the Association of American Railroads in particular. The Association has no power to "force" its members to do anything unless authorized by the Interstate Commerce Commission to do so. Its members could not give it such power under present law. When the Car Service Division, or perhaps some other branch of the A. A. R., issues enforceable orders, it merely acts as an agent exercising a power of coercion conferred by law on the Commission to regulate service.

Whether Mr. Young's dissatisfaction with the A. A. R. is well enough grounded to justify action as drastic as he has taken is a question for judgment by the management of each individual railroad. The six *reasons* he gives for his action—aside from his accusation that the A. A. R. has been lax in its defense of railroad owners' interest in reorganization and rate cases—may be summarized (in our wording, not his) with our comment on each point as follows:

1. The A. A. R. has so conducted itself as to become involved as a defendant in the Justice Department's anti-trust suit against the Western railroads, which will entail long and expensive litigation.

To this the rejoinder might be made that the railroads are caught in a legal no-man's-land between the anti-trust law and the Interstate Commerce Act, and the cost of litigation to determine whether the I. C. C. or the Justice Department is the predominant regulatory agency is an unavoidable expenditure, unless the issue can be resolved by the passage of some such legislation as the Bulwinkle bill.

Where Opinions May Differ

2. The Association has been accused of having maintained discriminatory rates against the South and West.

This charge has not been proved. Few if any persons except professional sectional agitators and those who take their opinions from what Westbrook Pegler calls the "butcher's paper magazines" give credence to the view that sectional rate differences have arisen from deliberate intention by the railroads to engage in unjust discrimination.

3. The Association opposed a requirement that securities be sold by competitive bidding—but the practice, since it has been required, has saved the railroads "tens of millions of dollars."

Quite likely the competitive bidding rule, as Mr. Young asserts, has worked out well for the railroads, so far anyhow. It was possible, however, to hold a different opinion before the event, as it is to hold it even now, without that fact being proof either of faithlessness or incompetence.

4. Under Association leadership the railroads have "tried to squeeze the last dollar out of obsolete equipment"; they have discouraged competitive technological development; their officers have been "far too intimate" with suppliers of equipment.

Many railroads certainly have "tried to squeeze the last dollar out of obsolete equipment," but it would be difficult to prove that the Association has been responsible for this. Individual railroads, not the Association, acquire equipment; and the Association has at times adopted programs for the acquisition of equipment by individual railroads which have not been carried out. This occurred soon after the nation entered World War II; and execution of the program adopted was prevented mainly or entirely by the imposition of government restrictions. There was a great decline in the amount of equipment and increase in its age during the depression. But throughout the depression the railroads had large surpluses of equipment, in addition to which most of them lacked the financial resources to acquire equipment needed for replacements and improvements. And they "squeezed the last dollar out of obsolete equipment" during the war because the government prevented them from getting thousands of new locomotives and cars that were actually ordered.

Limited Responsibilities

Some railroad officers affiliated with the A. A. R. would agree with Mr. Young, at least to the extent of believing that the Association has done less to promote technological research than it should have done. Technological progress is, however, primarily the responsibility not of the Association but of the individual railroads, and that the railroad industry has not lagged behind most other industries in technological progress is shown by its success in controlling its operating expenses and improving its service in spite of the large increases in wages and prices that it has had to pay. The accusation of "intimacy" between railroad officers and suppliers of equipment, to the extent that improper behavior is implied, cannot apply to most railroad officers, and it is not the kind of charge that a responsible leader in the industry is justified in making unless he is prepared to back it up with evidence of specific wrongdoing. And it cannot apply to officers of the A. A. R. because all equipment and materials are bought by individual railroads.

5. and 6. The Chesapeake & Ohio Lines, not the A. A. R., deserve the credit for the institution of through passenger service by way of Chicago and St. Louis; and it was the C. & O. also which forced the elimination of the "vast black market in train space reservations."

If these contentions were wholly accurate, as many railroad men would deny, it is still no valid accusation against an Association that it does not preempt the field of innovation. An Association should complement, not supplant, the activities of member companies. It is entirely proper that the reforms for which the C. & O. claims credit should have been initiated by an individual railroad. It is not a just reflection on the Association that it did not deprive member companies of the opportunity to attract favorable public attention by the exercise of initiative.

While Mr. Young has every right to disagree with Association policy and performance, the reasons he assigns for his discontent—aside from insufficient vigor on the part of the A. A. R. in defending railroad equities and revenues in the court of public opinion and, possibly, the small appetite which it has shown for comprehensive technological research—seem hardly serious enough to account for his displeasure. Be that as it may, the value to the railroad industry of a spokesman for ownership with Mr. Young's fighting qualities would still make him a constructive force even if he were harder for other railroad men to get along with than he is. There should be much more fighting for the rights and interests of railway stockholders than there has been in the past; and in saying this *Railway Age* is merely repeating what it has said many times.

Those who fear the disintegration of the A. A. R. because of withdrawal of the C. & O. Lines should note that their resignation is only partial. The maintenance of their limited alliance sufficiently indicates the indispensability of such an organization as the A. A. R. and the unlikelihood of its having to close up shop. And this paper ventures to be skeptical regarding Mr. Young's success in enlisting railroad labor in a new and useful organization. This may be regarded as a pessimistic or even cynical view. But advocates of Mr. Young's plan will have to draw more upon hope than on history for evidence and arguments in support of the view that railway labor leaders can be induced to give effective cooperation in any effort to secure for the railways the net earnings they will require in future adequately to promote the public interest.

Reliable Motive Power

To those who have an interest in railroad motive power, last week's *Railway Age* contained three items of especial significance. One was an article describing the Santa Fe's new design Alco-General Electric 6,000 hp. Diesel-electric locomotive with 2,000 hp. in a single-engine power plant in each of three units. With two six-wheel trucks the weight of each of the three units gives a maximum axle loading of 51,000 lb. Some months ago the Seaboard acquired a locomotive, built by Baldwin, with 3,000 hp. in a two-engine single-cab unit, of which the weight per driving axle was 51,250 lb. The rapidly increasing horsepower per unit, as the development of new mechanical accessories proceeds, has produced motive power of this type with no appreciable increase in axle loading. This is one of the major advantages of the Diesel-electric locomotive to many roads that would otherwise be faced with prohibitive expense for roadway improvements.

Elsewhere in that same issue appeared two advertisements that presented, in a few words, another major advantage, not only of the Diesel-electric locomotive but of modern steam power as well. In a General

Motors Electro-Motive Division advertisement appeared the record of the performance of some of the veterans of the Florida passenger runs. Three Electro-Motive units, two of which entered service in 1939 and the other in 1940, ran up the amazing total of over 4,000,000 miles at monthly average mileages as high as 19,229, and met their assigned mileage 91.2 per cent of the time. A total of 21 units on the Florida East Coast have covered a total of almost 9,000,000 miles with an availability of 94.1 per cent. This record portrays another advantage of the Diesel-electric—availability.

Not to be outdone by its latest competitor, the New York Central's Niagara type steam locomotive No. 5500, equipped with poppet valves, rolled up a total of 24,670 miles on the "Commodore Vanderbilt" in 30 days between September 8 and October 8 of this year. This record demonstrates that modern steam power, too, can compete in the matter of availability and utilization.

Nothing has been said here about the costs of operation or of maintenance, but the records that have been produced on road after road over the past five years show that, if power—reliable power—is needed to handle the high-speed passenger and freight jobs of the future, the manufacturers of this country's locomotives have it all wrapped up waiting for orders to go. The most surprising thing is that with money as cheap as money is today the railroads should even think twice about what to do with the 75 per cent of their inventories representing obsolete motive power that continues to eat its head off in high operating costs and to burden its owners with low availability for service.

Teamwork Pays

The description in this issue of how the Chicago & North Western and the Chicago, Milwaukee, St. Paul & Pacific recently replaced 27 units of special trackwork in their Western avenue crossing at Chicago in 25 days commends itself to the attention of other railway officers besides those of the engineering department. Railway managements, for example, may well be impressed by the effectiveness with which the work was carried out—a major contributing factor to that end being the close cooperation between the departments and railroads involved.

To renew 27 units of special trackwork in one location in 25 consecutive days, including eight movable-point crossings, 9 double-slip switches, two rigid-frog crossings, a lap turnout, and a special turnout with leads curved in opposite directions, is a sizable job on anybody's railroad. To do this in the face of more than 400 traffic movements within the working hours of the day, without an accident of any kind other than one workman's reported strained back, makes it a noteworthy accomplishment. It is to these aspects of the work that attention is directed, but the job is outstanding also from the viewpoint of the methods employed and the quality of the finished work.

Here was a task that, from an operational or methods standpoint, could have been carried out in any of several ways, but to be the unusual success that it was under the conditions imposed required one additional factor, namely, the close understanding and sympathetic cooperation of all departments involved; and this ingredient was abundantly supplied. At the very inception of the work, the operating departments of the two roads were brought into the planning and held many joint meetings with the engineering and maintenance officers in charge of the design details and actual installation. It was this joint planning and consideration by each department of the other departments' problems that led to the pre-assembled method of installation to speed up the work, minimize interference with train movements, and reduce the size of the forces necessary on this "hot" section of track.

Likewise, it was this cooperation that led to the carefully prepared schedule of each day's work, which kept all those involved constantly informed as to sections of track unaffected, out of service, or available for auxiliary operations—with the least interference to traffic and minimum interruptions to the various work operations. It was this cooperation between the departments that permitted the ready adjustment of plans to get back on schedule when operations were stalled for a full day by circumstances outside the scope of the work. Without this close cooperation between departments the Western avenue job, started on August 4 and completed in 25 days, might well not be completed yet—indeed, with less effective methods, it might well have been spread out over many months, with all of the disadvantages involved in such a delay.

It is not so difficult to see the value of and to secure such inter-departmental cooperation in the case of such large and complicated jobs as this one. But why not extend the same practice to the multitude of smaller routine jobs being carried out on every railroad daily? In such cases the value of working together might be small on each individual job, but, in the aggregate on all such jobs it should assume large proportions.

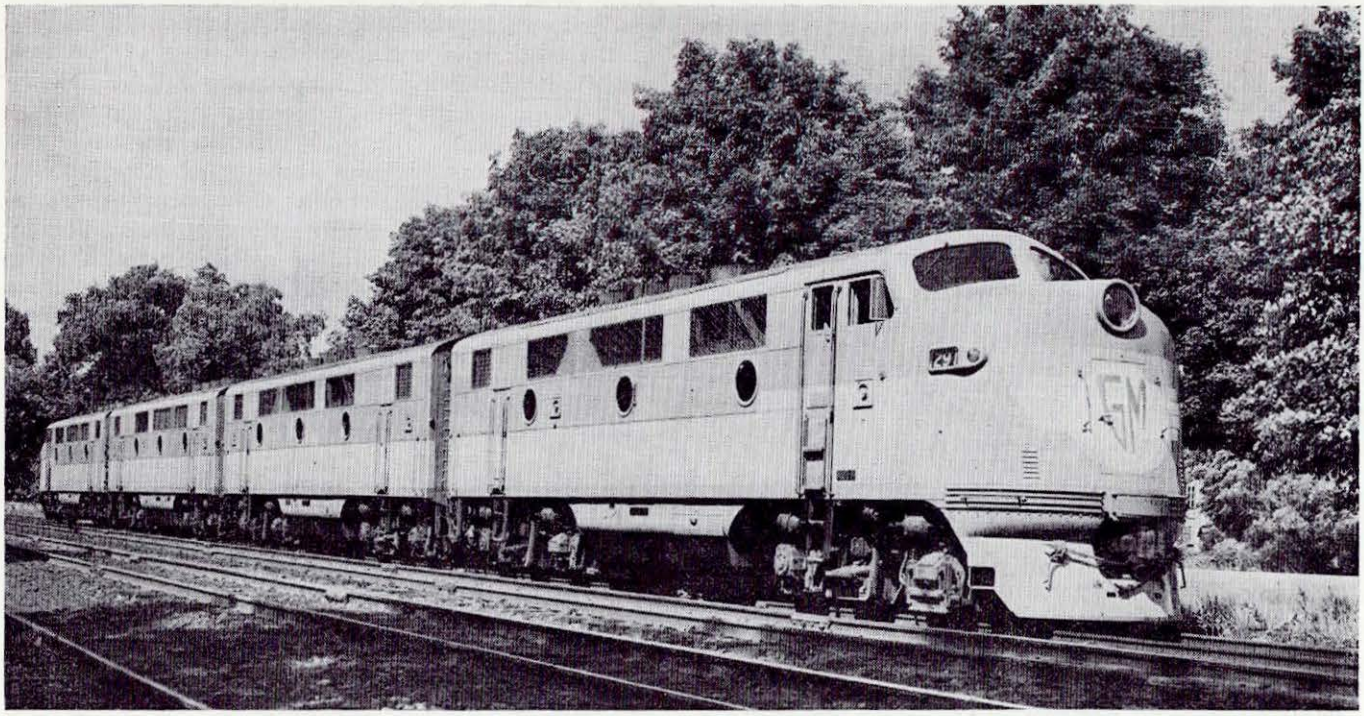
Efficiency and safety in railroading, to an extent greater than in most industries, require teamwork between various departments. Such teamwork has always been in evidence, but every railroad could do with more of it.

The Pattern for Nationalization

Leaders of state socialism are following a definite program in their attempt to discredit and undermine the principle of private enterprise. The groundwork has been laid for a focal attack upon transportation. The rail strike of only six months ago, forgotten already by most business leaders, is a glaring example of taking the enterprise principle too much for granted. This strike was a "trial balloon,"—a test case. The Brotherhood of Railroad Trainmen, whose president is a staunch advocate of government ownership, was able to throttle the economy of the country in forty-eight hours.

Government ownership of transport in the United States would open the door for the socialization of our entire economy. Freight rates, which enter many times into the distributing mechanism, would be subjected to political dictation. Ten million voters (employees and their families) would be added to the federal payroll. Private ownership and operation of basic industry, public services, and natural resources would topple like a house of cards.

—Donald Conn, executive vice-president of the Transportation Association of America, in an address at the Boston Conference on Distribution, October 14.



The Electro-Motive Type F-3 Diesel

Locomotive designed to cover heavy-duty freight, heavy-duty fast passenger and mountain-type passenger service

THE F-3 Diesel locomotive, the latest development of the Electro-Motive Division, General Motors, LaGrange, Ill., is a motive-power unit designed to meet railroad needs for flexible performance and adaptability to a wide range of services such as heavy-duty freight, heavy-duty fast passenger or mountain-type passenger service with the same locomotive. With four units developing a full 6,000 hp. for traction purposes, this locomotive can be used for speeds up to 100 miles an hour in passenger service, 50 to 65 miles an hour in freight service, or any desired intermediate speeds simply by changing the gear ratio.

The locomotive is also designed for simplified maintenance by means of more readily interchangeable parts. The first F-3, placed in service slightly over a year ago, has accumulated over 110,000 miles under all kinds of operating conditions on twenty-one different railroads throughout the country. While regular inspections are recommended at 3,000-mile periods, the F-3 made over 60,000 miles in one tight schedule of demonstrations before going to a shop, even for inspection.

The F-3 locomotive is available from single units of 1,500 hp. each, up to 6,000 hp. with four units, the latter generally consisting of a lead unit at either end and two booster units in between, so the locomotive may be operated in either direction without turning. F-3 units may be used interchangeably with previous Electro-Motive F-2 *A* and *B* units when necessary. The company will continue to build improved streamliner Diesel locomotives for ultra high-speed operation in lightweight trains, as well as 600 and 1,000-hp. Diesel switchers.

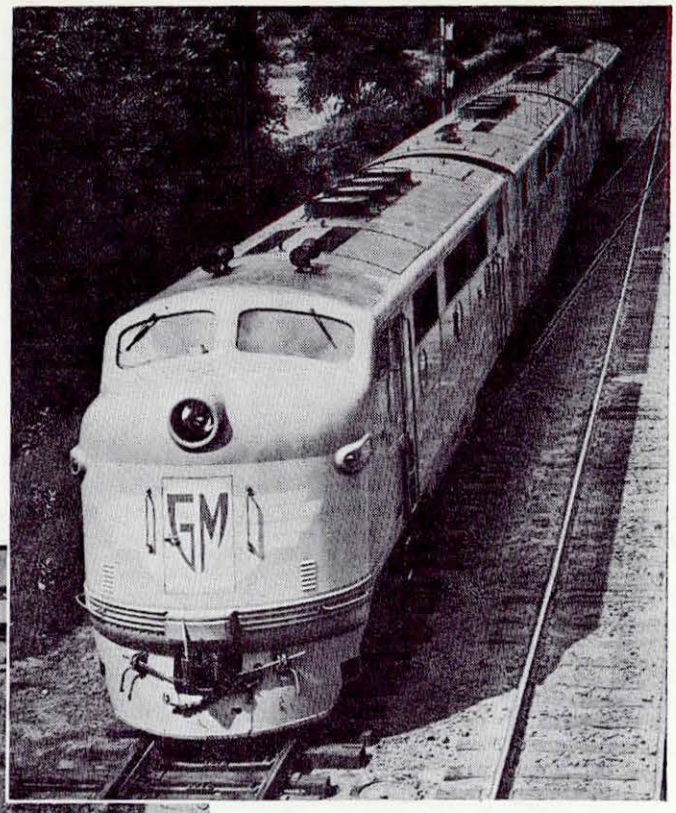
General Description

The F-3 Diesel locomotive lead and booster units have identical power plants and the same general arrangements except for cab and control equipment in the former and a 1,200-gal. boiler water tank in the latter. One of the drawings, for example, shows the location and arrangements of the 1,500-hp. Diesel engine, generator, necessary auxiliaries, four-wheel power trucks, etc., in the lead unit which is 50 ft. 8 in. long between coupler pulling faces, 30 ft. between bolster centers, 10 ft. 7 in. wide between handholds and 15 ft. high over the horns. Each truck, with a 9-ft. wheel base, is equipped with two motors, gear-connected to the two pairs of 40-in. driving wheels.

The two trucks weigh 75,600 lb. and the total loaded weight on rails of the lead unit is 230,000 lb. The fuel-carrying capacity is 1,200 gal.; sand, 16 cu. ft.; cooling water, 230 gal.; and lubricating oil, 200 gal. When a 300-lb. steam generator is supplied for standby service only, 300 gal. of water capacity is required. When used in passenger service, 1,600-lb. steam generators may be applied in both lead and booster units. Dynamic brakes are optional equipment. The locomotive is designed to operate safely on 21-deg. curve with 2¼ in. free lateral motion in the truck bolster and ⅜ in. in the Hyatt journal boxes.

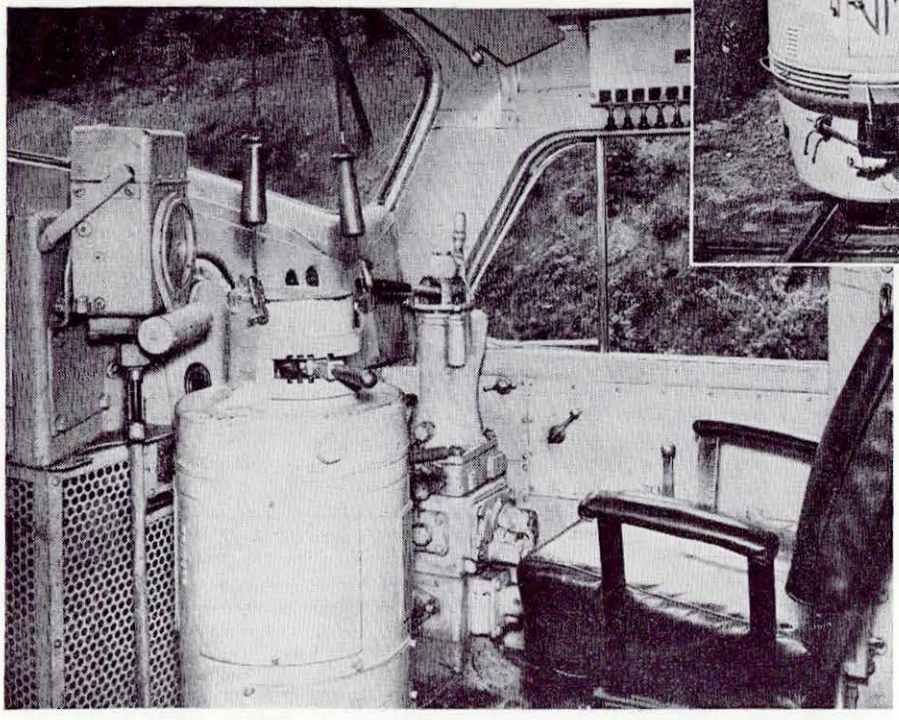
The car body framing is designed to simulate bridge construction using a modified Howe truss arrangement. The underframe has a center sill joined to the side framing through cross members and side sills. The upper or roof portions are tied together with arched frames and carlines to form a turtle back roof. Ample jacking pads are provided for blocking the locomotive. Front and rear framing is arranged to

Left — Electro-Motive Type F-3 Diesel ready for service test run



Right—The engine cooling fans and dynamic brake grid cooling vents

Below — Engineman's control station and equipment in the cab



provide collision protection. The complete assembly is of welded construction throughout, with reinforcing plates used at joints, placed so that no transverse welds are used.

The hatches are designed to blend with the contour of the turtle-back roof and located so as to give ready access for removal of equipment. The outside finish consists of paneling, mounted by use of battens, with allowance for deflection of body without buckling of panels. The finish does not assist in the support of the car body. Roof sheets are welded directly to the carlines and framing.

The flooring consists of plates welded to the underframe acting as a base for application of anti-skid flooring in aisles. The body center plates are Grade B steel castings, welded to the body bolster assembly. Wear plates are applied to bottom and outside surfaces.

The control cab, an integral part of the body, is located ahead of and above the locomotive floor, leaving an unobstructed view for the operating crew. The cab is insulated where possible with 2 in. of insulation, fire and moisture-proof, and equipped with two upholstered swivel seats having arm and backs rests. The inside finish consists of acoustical ceiling lining, while the cab floor is wood within steel framing, linoleum covered.

A centering device is used at each end of the locomotive, preventing excessive offset with multiple-unit operation. National Malleable type M-380 rubber draft gears are installed at the front and rear, with special electro-motive yokes having low overhang.

The pilots are designed to withstand substantial shock, being braced firmly laterally and longitudinally. An anti-climber device is installed at the intersection of the pilot and underframe.

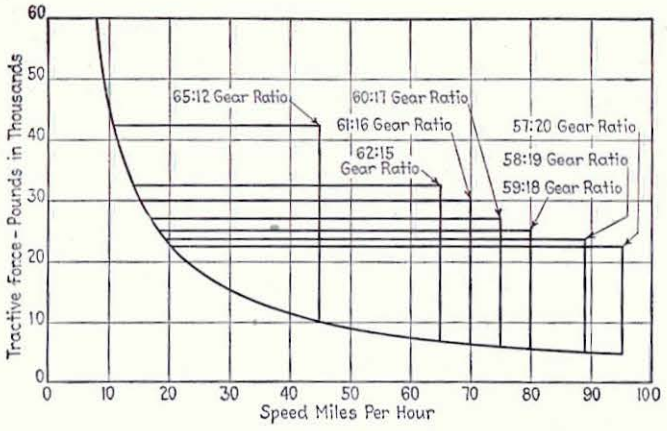
Improved riding qualities and greater stability are obtained by a new electro-motive method of load suspension in the trucks. The Commonwealth cast-steel truck frame is supported on each of the four journal boxes by twin-group coil springs. Full elliptic bolster springs rest on each end of the spring plank which in turn is carried by swing hangers pivoted from outside the truck frame.

Each of the four motors is supported by the driving axle to which it is geared, and a special suspension on the truck transom gives a flexible support, damping out the torque shocks of the motor.

Oversize E-12 axles with oversize wheel and gear seats are installed. The Hyatt roller bearings, on 6½-in. journals of Electro-Motive design, are housed in journal boxes which take lateral thrust directly, through a cushioning arrangement.

Truck center plates are designed with wear plates, dust guard, and lubricating arrangement. Friction type side bearings are installed. Body and truck interlocks on each side of the center plate serve as an anti-sluing device in case of derailment.

Clasp brake rigging is installed on each wheel, operated by individual brake cylinders. All pins and bushings are hardened and ground, large size; all holes in the brake rigging are bushed. The hand brake is connected to one brake-cylinder lever only. All trucks



Speed-tractive-force curve for the E.-M. Type F-3 1,500-hp. locomotive unit

have levers for hand-brake connection, making trucks interchangeable.

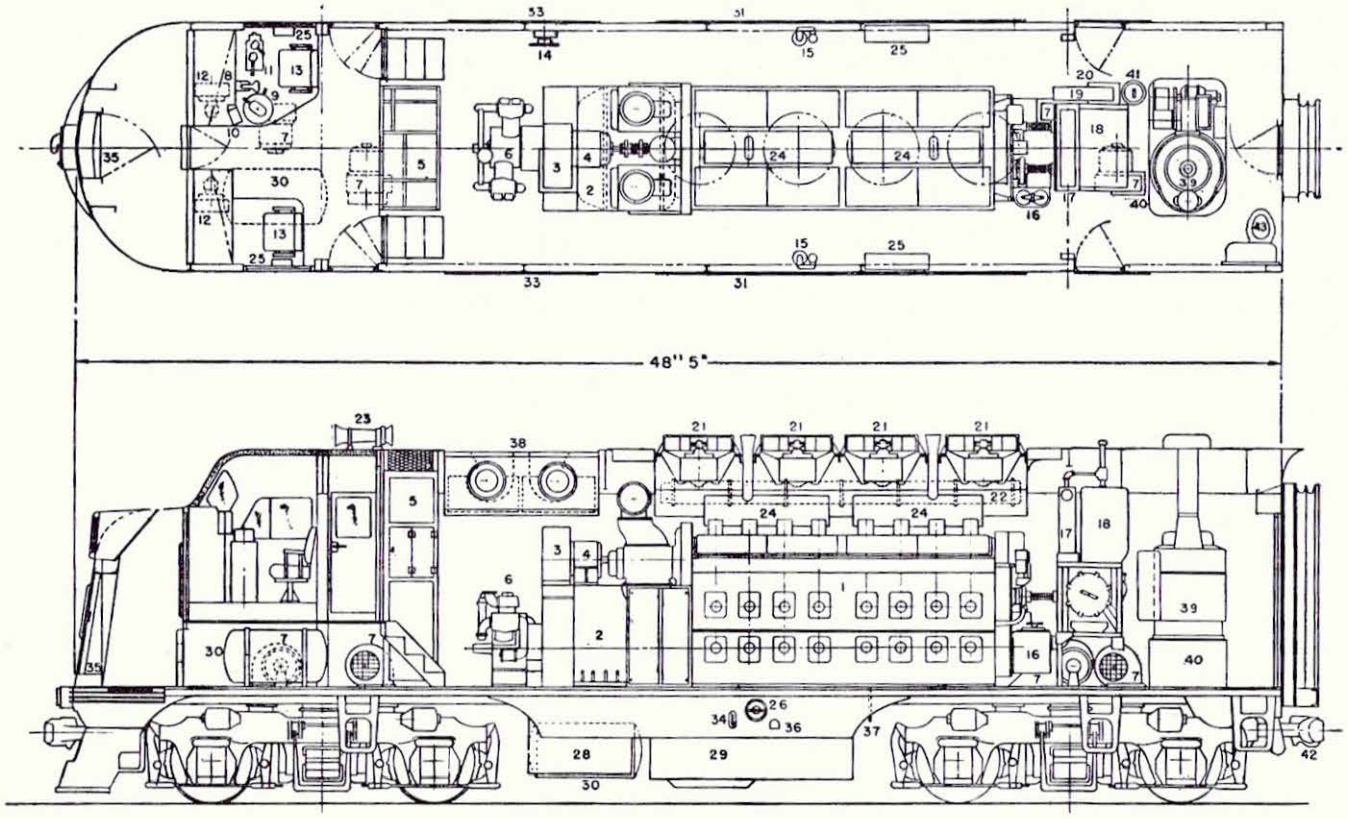
Power is generated in each locomotive unit by a General Motors 1,500-hp., 16-cylinder, 2-cycle, V-type Diesel engine (Electro-Motive Model 16-567 B), with 8-in. bore, 10-in. stroke and 800 r.p.m. engine speed. This Diesel engine is directly connected to a 600-volt main generator and 149-volt, 3-phase, 16-pole alternator, built integral with the main generator and supplying a.c. power to induction motors which drive the engine-cooling fans and traction-motor blowers. A 10-kw. auxiliary generator with automatic voltage regulator furnishes current for control circuits, lighting and battery charging.

A load regulator automatically maintains constant horsepower output, corresponding to each throttle position, over the entire range of locomotive speeds. The engine is started by motoring the main generator through the use of special starting fields energized by the locomotive storage battery.

Power Plant Features

Engine cooling water is circulated by two direct-driven centrifugal water pumps on the engine, tube-finned type radiators and four a.c. motor-driven cooling fans located in the hatch above the engine.

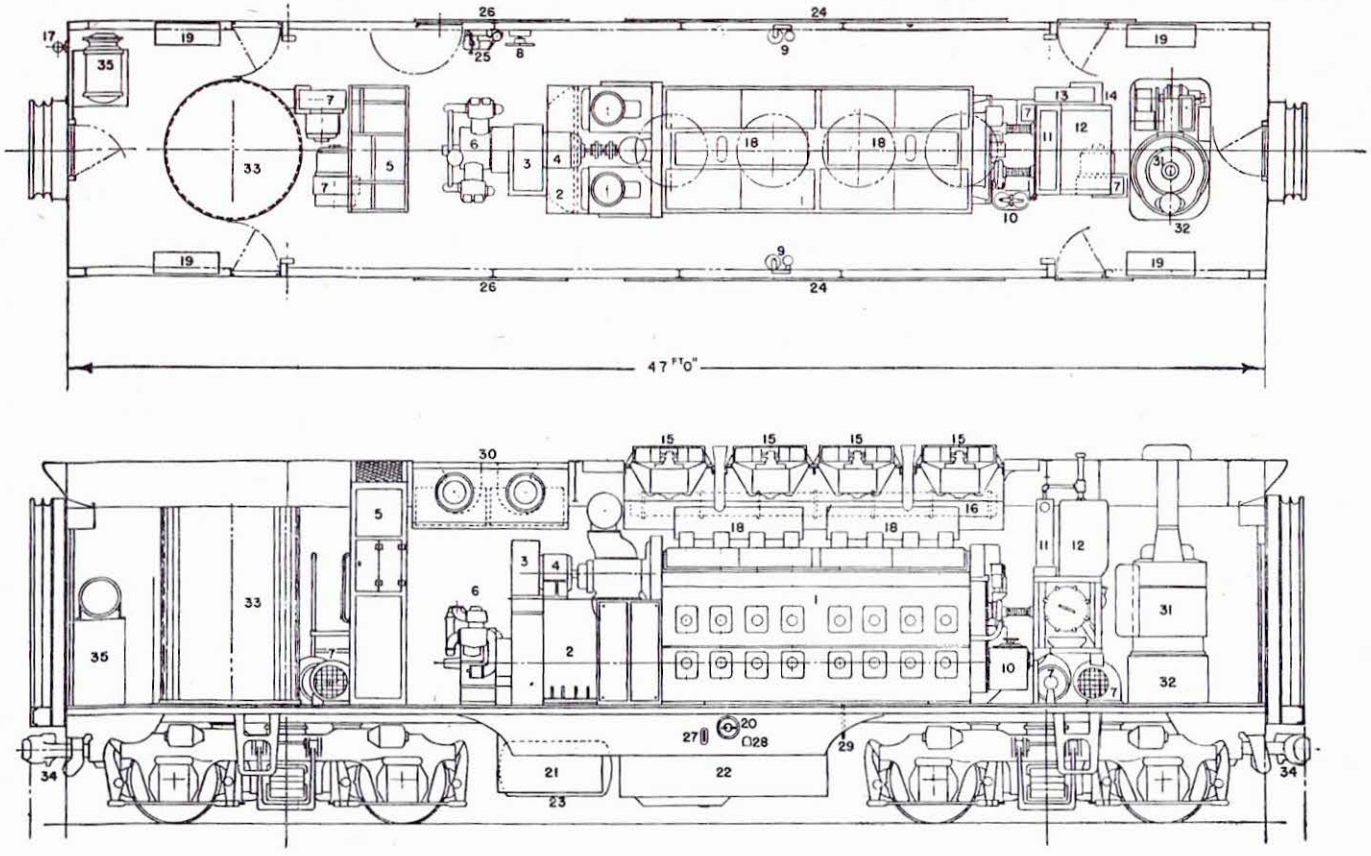
Gear-type main-bearing and piston-cooling pumps supply oil for lubricating all bearings, rods, cams, rocker arms and pistons, while the scavenging pump with a capacity in excess of the combined total of the two pressure pumps filters and cools the oil.



Lead Unit

1—Engine E. M. D. Model 16-567B
2—Main generator and alternator
3—Generator blower
4—Auxiliary generator
5—Control cabinet
6—Air compressor
7—Traction-motor blower
8—Instrument board
9—Control stand
10—Speedometer recorder
11—Air-brake valve
12—Cab heater
13—Seat
14—Hand brake
15—Fuel-tank vent with flame arrestor
16—Lubricating-oil filler
17—Lubricating-oil cooler
18—Engine-water tank
19—Engine control and instrument panel
20—Load regulator
21—34-in. fan and motor
22—Radiator
23—Horn
24—Exhaust manifold
25—Sand box
26—Fuel filler
27—Headlight (fixed beam)
28—Batteries
29—Fuel tank (1,200 gal.)
30—Main air reservoir
31—Air intake and shutters
32—Boiler-water filler*
33—Air intake for grids and engine room
34—Fuel-tank gauge
35—Door, Plain
36—Emergency fuel cut-off
37—Engine-water filler
38—Dynamic brake grids and blowers*
39—Boiler*
40—Boiler-water tank (200 gal.)*
41—Boiler-water softener*
42—Coupler between units**
43—Toilet

* Modifications.
** Options.



Booster Unit

1—Engine E. M. D. Model 16-567B
2—Main generator and alternator
3—Generator blower
4—Auxiliary generator
5—Control cabinet
6—Air compressor
7—Traction-motor blower
8—Hand brake
9—Fuel-tank vent with flame arrestor
10—Lubricating-oil filler
11—Lubricating-oil cooler
12—Engine-water tank
13—Engine control and instrument panel
14—Load regulator
15—34-in. fan and motor
16—Radiator
17—Horn*
18—Exhaust manifold
19—Sand box
20—Fuel filler
21—Batteries
22—Fuel tank (1,200 gal.)
23—Main air reservoir
24—Air intake and shutters
25—Hostler control*
26—Air intake for grids and engineroom
27—Fuel-tank gauge
28—Emergency fuel cutoff
29—Engine water filler
30—Dynamic brake grids and blowers*
31—Boiler (1,600 lb. capacity)*
32—Boiler water tank (200 gal.)*
33—Boiler water tank (1,200 gal.)*
34—Couplers between units**
35—Air-brake equipment

* Modifications.
** Options.

Engine fuel is supplied from a return-flow, single d.c. motor-driven gear pump, protected by a suction filter in addition to discharge filters to insure clean fuel for the engine. An assembly of sight glasses and relief valves offers visual indication of any system trouble plus protection against excessive pressures. The engine exhaust comprises dual fabricated chambers, each with independent exhaust.

The Exide 32-cell 64-volt 426-amp.-hr. battery is located in two cabinets, one on each side of the locomotive directly in front of the fuel tank. The engine control stand at the left of the engineman's seat includes the engine speed throttle, transition and reverse levers.

The type of transmission is optional and may be manual, automatic or a combination of the two. A multiple-button control and lighting switch is conveniently located, as are also the usual air brake control valves, dead-man control, signal cord, sander valve, etc.

Automatic and independent air brakes are installed, with braking pressures applied to all wheels. The main reservoirs are carbon steel with all-welded seams and heads, 26½ in. by 50 in., with a capacity of 25,000 cu. in. One reservoir is located under the cab floor while the second unit is mounted under the locomotive between the battery boxes in front of the fuel tank for a total capacity of 50,000 cu. in.

Air is supplied by a Gardner-Denver, two-stage, three-cylinder, air-cooled direct-coupled compressor, having a displacement of 180 cu. ft. per min. at 800 r.p.m.

Summary of Improvements

Among other improvements in the Electro-Motive Type F-3 Diesel locomotive, the underframe has been redesigned to provide equal overhang and greater length between truck centers. An economical rearrangement of equipment and small increase in car body length not only give greater accessibility for adjustment and maintenance but more space for steam-heating generators and water tanks.

The Diesel engine, generator, controls and traction motors are a balanced combination, designed to develop full drawbar horsepower over the full speed range of the locomotive. In the F-3 locomotive, a new and larger main generator not only permits utilization of more of the inherent horsepower in the model 16-567 engine but produces both a.c. and d.c. current in the same machine, enough a.c. for the auxiliaries and enough d.c. to develop 1,500 propulsion horsepower over the full speed range. This generator is unusually compact, accessible for maintenance and designed for long brush life.

The a.c. drive for auxiliary equipment eliminates V-belts and extension shafts and makes possible such innovations as a new type engine-cooling system with four fans. By means of an ingenious electrical hook-up, the fans are operated in any required number to meet all degrees of cooling requirements

(Continued on page 683)

Shippers Boards Study Car Efficiency

The National Association of Shippers Advisory Boards hears Hungerford and Kendall report on car situation—Fletcher tells meeting "why" of railroads' program for legislation

MORE efficient use of freight cars and means to effect a reduction in loss and damage to freight in transit were the principal subjects considered by the delegates to the tenth annual meeting of the National Association of Shippers Advisory Boards, held at the Jefferson Hotel, St. Louis, Mo., on October 22.

Carl Giessow, director, Transportation bureau, Chamber of Commerce, St. Louis, Mo., was elected president of the association for the coming year; Warner B. Shepherd, assistant general traffic manager, Aluminum Company of America, first vice-president; F. J. Rebhan, traffic manager, American Crystal Sugar Company, Denver, Colo., second vice-president; and Frank J. Armstrong, traffic manager, U. S. Radiator Company, Detroit, Mich., secretary.

Major addresses were given by Clark Hungerford, vice-president, Operations and Maintenance, Association of American Railroads, (who appeared for A.A.R. president J. J. Pelley, who was unable to attend the session because of illness); J. Monroe Johnson, director of the Office of Defense Transportation; Warren C. Kendall, chairman, Car Service Division, A.A.R.; R. V. Fletcher, vice-president of the A.A.R.: and J. E. Bryan, general chairman, National Management Committee, who reported on the 1946 Perfect Shipping Campaign.

In his opening remarks Clare J. Goodyear, president of the association, said: "The shift from war to peace in the economy of this country was accomplished with such rapidity as to confound completely the profits of gloom. . . .

Penalty Demurrage

"It is axiomatic under these conditions that the handling of increased traffic necessarily requires increased efficiency on the part of all who utilize or move this equipment. We still have confronting us a considerable period of time during which we can foresee a shortage of cars. Additional steel for repair parts and new construction has been promised but the result in new cars cannot make itself felt for months to come. Therefore, with a continuous high-level traffic volume there is little probability that the American people will have for some time the efficient, plentiful transportation service to which it has been accustomed and to which it is entitled."

Warner B. Shepherd, secretary of the group, in his reports declared: "It has been deemed necessary not only to continue but also to revitalize O.D.T. General Orders Nos. 1 and 18-A and to reestablish high penalty demurrage in order to stimulate maximum utilization of cars. The full cooperation of the Shippers Advisory Boards and the shipping public is essential to stave off a serious car shortage. There are a number of causes contributing to our present plight: an unprecedented movement of grain requiring longer than normal hauls, lack of foresight of government agencies in the new car program, diversion of grain from feeding livestock on farms to transportation in rail cars, allocation of car building materials to foreign countries and away from American railroads, labor disputes and other things with which all of you are familiar. Whatever the causes, we are facing a situation that can only be met by the utmost utilization of all our transportation plant. We must adopt the old New England slogan 'wear it out; patch it up; make it do.' To this end, all 13 boards have rededicated themselves."

In his talk, Mr. Kendall asserted: "Doubtless that which is uppermost in the minds of all present relates directly to current reports of shortages of one or another type of cars. All industry is more or less affected, and there is no purpose in attempting to minimize its seriousness in individual cases. Let us, however, in all fairness and frankness, ask ourselves just how serious these shortages are, and to what extent they may be responsible, if at all, for any retardation in the economic upsurge now evident in the program or the processes of post-war reconversion.

"Some headline writers have referred to these shortages as a 'Crisis in Transportation.' I cannot agree that there is anything like a 'crisis' in the present stage of performance of our industry. True it is, there are car shortages which may affect some individuals or industries seriously. But these by no means constitute a 'crisis' as the term is customarily used. May we recall that we are now in the midst of handling:

(1) The greatest agricultural crops in the history of the United States—five per cent above the previous record crop of 1945, and 29½ per cent above the preceding ten-year average. (2) The heaviest coal production program in 20 years. (3) An l.c.l. movement greater in tonnage volume than any since that of 1929 or 1930. (4) An all-time record crop of production of perishable fruits and vegetables. (5) An unprecedented upsurge of industrial activity, large and small, as indicated by an all-time high in the number of persons employed.

"Perhaps the greatest single difficulty which now confronts the railroads in the matter of rendering service relates to the handling of l.c.l. traffic. The volume of this tonnage has increased markedly during recent months. . . . The result has been an unprecedented congestion of many freight houses and transfers at strategic points, with delays to cars, despite all practical efforts to overcome the difficulty through additions to forces, Sunday work, payment of overtime, working freight handling crews in double shifts, and use of section crews."

Million-Car Weeks

Mr. Kendall explained that there is current potential need for loading of a million cars a week, while recent weeks indicate that actual loadings are approximating 910,000 to 916,000 cars a week, or from 91 to 92 per cent of the potential; and he asserted that: "no industry is falling down seriously with a performance record of 92 per cent." Comparing current car shortages with those following World War I, he observed that the total shortage of cars during the week of October 12, 1946, was 28,194, contrasted with 179,239 cars in the week ending October 31, 1922.

"Some statements lose nothing by repetition," Mr. Kendall continued. "One such is that shippers and railroads, working together, have performed a transportation miracle. They are still performing in that same miraculous manner, for the record of cars loaded and moved weekly is standing up to the record of the war years, and with fewer serviceable cars than were available during that period. I am convinced that there is still some slack that can be taken up, both by the shipping public and by the railroads, which will permit a nearer approach than we now have to that theoretical 1,000,000-car week. . . .

"There has not been the slightest ten-

dency on the part of any of us within the Association of American Railroads, nor of those in government, to overlook the fact that there have been railroad deficiencies in the handling of cars, and there has been no hesitancy to present forcefully to the carriers the need for improved performance in their operating practices. Obviously, we would not go to a shipper for correction of delays for which the railroads are responsible, neither can the railroad correct the shipper on receiver delays. These must be handled with the shippers and receivers. In all too many cases, shippers and receivers refer to delay due to railroad handling in general terms and for one reason or another do not supply sufficient details which might be a basis for investigation and corrective action.

"The shippers and receivers of freight are fully aware of the railways' delinquencies and are able to support their charges with evidence. In too many instances, they are justly critical of the service rendered. They recognize there are extenuating circumstances and are willing to make allowances. But we, as railroad men, have a definite responsibility to pick up our share of the existing slack. . . .

No Margin

"The entire transportation picture demands most careful and conscientious attention. There is no margin. All possible slack must be taken up. There is some chafing at restrictions which have been imposed. These and wartime regulations should be relaxed as early as practicable. The immediate problem is one of furnishing sufficient transportation to meet the critical needs now confronting industry. None of us has expended our last ounce of effort. That is now needed, and by its application, individually and collectively, the job can be done, and in a manner which will be generally satisfactory."

Carl Giessow, vice-president of the Association, speaking on the activities of the local car efficiency committees, declared: "The answer as to whether or not penalty demurrage has materially increased car supply is still not clear cut. It might be conceded there has been a slight improvement in car release. On the other hand, carriers have had to do more switching in order that high penalty cars could be unloaded first. No shipper or receiver wants to pay demurrage at any time. Penalty demurrage gouges the shippers and receivers who cannot help themselves. It adds revenues to the carriers who performance or failure to perform contributes to its accrual. The carriers should be required to increase their facilities in keeping within reasonable transportation demands. New equipment in volume is urgently needed."

Judge Fletcher said in part: "In considering the legislative program of the railroads, a matter in which the Shippers Advisory Boards are interested, I call attention to the very exhaustive memorandum filed by the Association of American Railroads with the subcommittee on transportation of the committee on interstate and foreign commerce of the House of Representatives, which proceeding is commonly referred to as 'National Transportation Inquiry.' Preeminent is the suggestion that the provisions of the anti-trust laws should be reconciled and harmonized with the national transportation policy as declared by Congress. This means that the railroads are primarily and immediately interested in the enactment of the Bulwinkle bill, which failed of passage in the last Congress

"The matter is of the utmost importance, in view of the effort of the Department of Justice to destroy the conference method of making rates. If the railroads are prohibited by narrow and technical construction of the anti-trust laws from conferring with shippers and with each other in regard to rate changes, nothing but chaos will result. It is essential to a sound economy that the rate structure of the country should be reasonably flexible, so that rate changes may be made as conditions warrant. We simply must not have the clock of progress turned back to a point where the rates are so rigid as to embarrass business or where there is an invitation to disastrous rate wars, which will be injurious to the transportation industry and even more injurious to business.

"It is clear to every student of the question that legislation is desirable in order to permit railroad reorganizations with the consent of the creditors, without going through the long, painful and expensive process of bankruptcy now provided in Section 77. If a railroad finds itself in difficulties and the creditors are willing to effect a simple reorganization, under which mortgage bonds, for example, may be exchanged for income bonds or bonds equivalent thereto, there should be no possible objection to making an arrangement of this kind, with the consent of the overwhelming majority of the creditors permitting this to be done.

"The railroads are sincerely of opinion that all forms of transportation should be regulated by the same agency, in order that proper coordination might thereby be accomplished. At the present time, the Interstate Commerce Commission has jurisdiction over all transportation agencies except those that operate in the air. We are firmly of the opinion that the regulation of air transport should also be lodged in the Interstate Commerce Commission."

In his report on the 1946 Perfect Shipping Campaign, Mr. Bryan told the group that in spite of all efforts the total amount of loss and damage has not been abated. He said: "During the war years both the shippers and the carriers had a fairly good alibi for the increasing losses due to shipping and handling the nation's commerce the way it should not be shipped and handled. It was vainly hoped that within a reasonable time after the close of hostilities, both shippers and carriers could enter into a reconversion period that would permit the return to correct packaging, stowing and handling of our products. We hoped to be able to obtain better packaging material of all kinds and hoped also for the return of experienced help in our shipping rooms, in the transportation agencies' warehouses platforms, as well as in the railroad yards and in the over-the-road movement of goods. The disappointments in that regard were due largely to the fact that the country was almost overriden by strikes which definitely curtailed production of materials necessary for packaging as well as for the rehabilitation of cars, trucks and other articles to replace broken down and worn out working tools."

A. L. Green, special representative, Freight Claim division, A. A. R., in commenting on Mr. Bryan's message, said: "We realize that shippers have been sorely handicapped in securing the customary and adequate packaging materials. As a consequence, many shipments have been damaged which under normal conditions would have carried safely. In that respect there is reason to believe that better conditions are in prospect."

Resolutions

The association passed resolutions calling upon the rail carriers to augment their supply of cars by placing orders for additional cars and by increasing their car repair forces to utilize to the fullest possible extent the available labor and materials, and requesting that federal government agencies allocate sufficient materials to meet the need of the carriers, both in the construction of new cars and the repair of existing ones, and requesting that the furnishing of such materials to domestic railroads be given priority over the construction of cars for export; urging that each regional board create a freight claim prevention committee to operate on a year-round basis; and recommending that each board make a survey of its territory to unearth instances in which reductions in railroad personnel and terminal and interchange services are contributing to car delays, and to refer any such instances discovered to the proper regional railroad contact committee for immediate correction.

[A further report of the proceedings will appear in the next issue of *Railway Age*.—EDITOR]

Officers of the Signal Section, Association of American Railroads, include (from left to right): E. W. Reich, Chairman, Superintendent of Telegraph and Signals, Reading; L. B. Porter, Vice-Chairman, Superintendent of Telegraph and Signals, Chicago, Milwaukee, St. Paul & Pacific; and R. H. C. Balliet, Secretary, Signal Section, Association of American Railroads

Signal Section Holds Annual Meeting

Discusses economics of signaling, changes in practices and the new developments in equipment and systems

THE forty-eighth annual meeting of the Signal Section, A.A.R., was held at Swampscott, Mass., on October 14, 15 and 16, the last previous meeting of this body having been held in 1941. E. W. Reich, superintendent telegraph and signals, Reading, presided as chairman; there were 478 members and guests. In addition to the opening remarks by Chairman Reich, addresses were made by Governor Maurice J. Tobin of Massachusetts; Commissioner William J. Patterson of the Interstate Commerce Commission; Brigadier General Paul F. Yount, assistant chief of transportation of the United States Army; J. W. Smith, vice-president of the Boston & Maine, and Clark Hungerford, vice-president in charge of the Operations and Maintenance Department of the Association of American Railroads. Technical papers were presented by G. W. Baughman, chief engineer of the Union Switch & Signal Company, and O. S. Field, director of engineering and research of the General Railway Signal Company.

The reports of ten of the standing committees had to do with requisites, specifications, standard drawings and other details which are of interest primarily to signal engineers, and are not discussed here.

In his opening address, Mr. Reich explained that many new developments are taking place in the field of railroad signaling which will contribute to greater safety, efficiency and economy of train operation. However, he contended that the benefits to be derived from any one of these developments can be overestimated in the public mind. Taking the installation of radio on trains as an example of this, Mr. Reich said there is a definite place for radio in coordinating controls in the operation of a railroad, but that radio will supplement rather than supplant some of the signal devices already in use.

Speed of operation, density of traffic and local operating conditions determine where new signal features can be used to the best advantage, he stated. Continuing, he said that railroad managements, regulatory bodies and the public should be kept informed of the utility and safety inherent in the use of more modern signal devices, but in a way that will insure a clear understanding that the development of a new device which may be particularly advantageous for a certain application should not stigmatize existing installations simply because they are not of the latest design.

In his address, Commissioner Patterson reviewed the history of the development of signaling, especially with reference to the activities of the Train Control Board, the Bureau of Safety, the Interstate Commerce Commission, and other federal government agencies. He said there has never been a time in the history of railroading when signaling was of more importance than it is today, and that its importance will continuously increase. This thought he amplified later when he explained the investigation instituted by the commission on May 20, 1946, to determine whether it is necessary in the public interest to require railroads to install signal systems, interlockings, automatic train stop, train control and/or cab signaling upon all or any part of their lines where any train is operated at 50 or more miles per hour. Hearings on this proceeding were held at Cincinnati, Ohio, on October 2 and 3, and the case is now under consideration.

In his address, General Yount explained the proposed long-range program of research in military transportation now under way by the Transportation Corps through its Research and Development Division. He stated that the Army is interested in any development that will eventually lead to a light

locomotive that will perform equally well on the road and in the yard, and said that the problem is further complicated by its desire to obtain a type suitable for air transportability. This latter feature, he pointed out, would have been particularly desirable in connection with the Burma campaign, where the Army did fly in small gas mechanical locomotives and hauled steam locomotives over narrow mountain roads on heavy equipment trailers to meet the requirement for rail service. The Army necessarily leans toward commercial development, even at the sacrifice of some military characteristics, because of the problem of production.

Clark Hungerford, in his address, said that without successful railroads, there can be no real reconversion in this country. The events of the past few months, he said, have reminded us once again of the close partnership between this America of ours and its railroads. Neither could prosper, neither could operate without the other. Consequently, there can be no sound and lasting prosperity in America without strong and prosperous railroads.

At the present time, Mr. Hungerford stated, the railroads are confronted with financial difficulties and a car shortage. The financial difficulties, he explained, are due to rising costs on the one hand and a decline in traffic on the other. As a result, he reported, the net income of the railroads in the first eight months of 1946 was $388,500,000 less than in the corresponding period in 1945. According to Mr. Hungerford, higher costs of fuel, materials and supplies and particularly wages since 1939 have increased railroad expenses in 1946 by more than two billion dollars. On top of these increases, he said, are the railroad retirement taxes which must be paid as the result of the passage of the Crosser bill. Beginning next January, these taxes will add approximately $90,000,000 more a year to railroad expenses. In spite of mounting costs and a falling off of traffic, Mr. Hungerford declared, freight rates today average only about 6 per cent more than they did before the war. That is why the railroads are now seeking Interstate Commerce Commission authorization to increase their freight rates.

Report on Economics of Signaling

Some of the reports presented by the Committee on Economics of Railway Signaling were (1) Economics of train operations on Hoxie subdivision of the Missouri Pacific; (2) economics of crossing gates; (3) method of forecasting economic value of signaling; (4) train capacity of single track; (5) economics of single-track centralized traffic control versus multiple track; (6) signaling in yard limits; (7) cost of automatic block and cost of centralized traffic control; (8) train-hour value; (9) progress report on economics of communication between front and rear end, and between engines, trains and fixed points; and (10) freight train time saving where trains are operated by signal indication.

ECONOMIC STATEMENT

	To restore second track		To C. T. C. single track	
1. *Cost of Installation:*				
(a) Chargeable to capital investment	$530,269		$296,637	
(b) Chargeable to operating expenses	198,250		40,445	
(c) Total		$728,519		$337,082
2. *Gross Saving per Annum*		$83,485		$111,445
3. *Maintenance and Operation per Annum*		59,040		11,830
4. *Net Saving Exclusive of Interest Charges*		$24,445		$99,615
5. *Interest, 5%*		26,513		14,832
6. *Net Saving*		—$2,068		$84,783
7. *Annual Return above Interest Charges:*				
(a) On capital investment		—0.39%		28.58%
(b) On total cost		—0.28%		25.15%
8. *Annual Return on Investment:*				
(a) On capital investment		4.60%		33.58%
(b) On total cost		3.35%		29.55%

Single-Track Centralized Traffic Control Versus Multiple Track.—A section of single track with passing sidings of a length and so located as to meet the requirements of the traffic, when equipped with a signal system designed for maximum track usage and controlled from a central point, will in many cases be adequate for the operation of a number of trains which in lieu of such a signal system would require a second main track. A description of such an installation and economic statement is as follows: In 1933, because of decreased traffic, two-track operation on a north-south railway was abandoned and single-track operation substituted for a distance of 52.9 miles. The second track was physically removed except for sections retained as passing sidings. At both ends, the single track connects with two main tracks on which trains are operated by timetable, train orders, and manual block.

With increased traffic to and from the north gateway brought about by the war, this single-track portion became a bottleneck. Following an analysis of the economics of restoring the second main track versus installing centralized traffic control on the single track, it was concluded that signaling the single track was the logical course to pursue. Accordingly, this was accomplished on January 30, 1944, and the bottleneck was immediately removed, principally through reduction of the average running time of through freight trains in the single-track territory by 1 hr. 28 min. The speed of passenger and freight trains in this territory is 50 m.p.h. and the volume of traffic 25 trains daily.

The use of C.T.C. also resulted in the closing of three 3-trick block stations which released employees for duty elsewhere and effected an annual saving of $27,960. The retention of these block offices would have been necessary under two-track operation.

Cost of Automatic Block Signaling.—The cost of installing new automatic block signaling, as determined from various roads, was given in a large table in the report of the committee. The cost of automatic block on single track ranges from $2,424 to $4,450 per track-mile, or from $202 to $282 per A.A.R. unit. These figures indicate the variations which may be expected because of different conditions, and further show the impracticability of using an average cost per mile of track or per A.A.R. unit.

A large table in the report listed 14 automatic block signal installations giving the mileage, number of units and costs of maintenance and operation of automatic block signaling during the year 1945. These costs varied from $8.16 to $16.80 per A.A.R. unit, and from $89.40 to $296.29 per track mile, annually, the average being $9.73 per A.A.R. unit and $154.25 per track mile.

Costs of Centralized Traffic Control.—A table in the report, based on figures on nine actual railroad installations, showed that the cost of installing centralized traffic control in the years 1940 to 1943, inclusive, varied from $107 to $440 per A.A.R. unit of signaling, and from $3,910 to $14,500 per track mile. As explained in the report, the variations in costs per track mile are due to: (1) Number of passing sidings and electrically locked switches within the limits of the project; (2) number of interlockings, and protected highway crossings existing which had to be revised; (3) whether the passing sidings were completely track circuited and signaled for medium speed turnouts; (4) whether the C.T.C. installation was made where no automatic block system existed before; (5) the number of passing sidings where one end was already included in an interlocking. These variations show that the use of an average cost per track mile for estimating purposes is impracticable unless the requisites are known.

The cost of maintenance and operation of centralized traffic control, as shown in a table in the report for years 1944 and 1945 for eight territories, indicates variations from $187 to $1,320 per A.A.R. unit, or $180.43 to $499.81 per track mile.

Saving in Expenses by Closing Block or Train-Order Offices One Trick Daily.—As applying to this subject, the maintenance of offices includes building and signal maintenance, together with light,

heat, water and supplies. Wages include railroad retirement taxes, unemployment insurance and vacations. A table compiled from data furnished by nine railroads is given herewith.

SAVINGS IN OPERATING EXPENSES BY CLOSING OFFICES

Railroad	Year	Office maintenance	Wages, per trick
A	1944	$242.12	$2,947.96
B	1944	300.00	2,838.97
C	1945	300.00	2,738.23
D	1945	158.00	2,939.94
E	1945	50.00	2,769.68
F	1944-1945	287.00	2,787.90
G	1945	281.80	3,477.21
H	1945	335.00	3,036.23
I	1945	300.00	2,600.00
J	1945	354.42	2,975.24
K	1944-1945	552.10	2,601.67

Freight Train Time Saving Where Trains Are Operated by Signal Indication.—The committee report for 1936 included lists of 19 centralized traffic control installations, where the freight train time saving varied from 0.27 to 4.29 min. per freight train mile, with an average of 1.38 min. At the 1946 meeting the committee submitted information on six additional C.T.C. installations, on five of which the previous operation was by train orders with automatic block protection. The complete data is shown in the table, the average saving for the six installations amounting to 1 minute per train mile. The savings on Railroads A and E were made with trains handling 25 per cent more tonnage than previously.

FREIGHT TRAIN TIME SAVED BY C. T. C.

Railroad	Single or two main track	Miles Road	Miles Track	Av. frt. trains per day	Max. trains per day	Av. frt. train time saved per trip, minutes	Per cent time saved	Minutes saved per frt. train mile
A	S.T.	175.0	175.0	12	50	175	26	1.00
B	S.T.	39.9	39.9	12	28	32	30	0.80
C	S.T.-T.M.T.	117.8	127.8	45	50	138	31	1.17
D	S.T.-T.M.T.	47.0	62.0	54	65	45	25	0.96
E	S.T.-T.M.T.	59.7	69.7	30	48	59	26	0.99
F	S.T.	64.6	64.6	26	28	60	32	0.93

Yard and Train Communication

The progress report on economics of communication between front and rear end and between locomotives, trains and fixed points, included extended explanations of the Union Switch & Signal Company inductive train-phone system on the Pennsylvania, and the General Railway Signal Company radio yard communication equipment in a classification yard at Selkirk, N. Y., on the New York Central.

The Pennsylvania now has an extensive installation of train communication under construction on 245 miles of four-track main line between Harrisburg, Pa., and Pittsburgh, but the explanation in the report applies primarily to an earlier test installation on 50 miles of a single-track branch line between Trenton, N. J., and Phillipsburg. The committee explained that the descriptive explanation included in the report was being submitted as a preamble to submission of reports covering the economic results which are now under preparation.

The installation at Selkirk has been in operation since September, 1944, using radio equipment furnished by the General Railway Signal Company, including three mobile stations, two on hump pushers and one on the trimmer locomotive, and one fixed station at the hump conductor's office. The radio communication has proved extremely valuable in expediting operation and has permitted continuous humping during periods of storm, fog and low visibility. Direct and instantaneous communication with the trimmer engine enables it to place the classification yard more efficiently in position to receive cars moving over the hump and has its effect on maintaining more continuous operation with the end result of expediting the entire yard switching. An abstract of a statement of the economic advantages, as given in the committee report is as follows:

A check of all conversations over the radio was made during a 72-hour period from which it was determined that approximately 22 minutes air time of each 8-hour trick was used, involving some 250 messages. Many of the instructions relayed via radio could not have been otherwise given without involving delayed operation. It was also determined that about 50 per cent of the air conversation is between the hump conductor and the trimmer engine, indicating the present need for adequate communication facilities between these two points.

Based on present experience, it is believed that radio has demonstrated itself to be a practical and useful tool in yard operation; voice reception is excellent, failures have been negligible and equipment maintenance is low.

While no actual experience is available on which to predict economies resulting from complete radio use in the control of yard engines, nevertheless, it is the considered opinion of yard operators that a material reduction in engine hours per year should be obtained. In addition, certain per diem savings should accrue due to faster dispatch of cars through the yard by a complete installation of radio. It is further believed that other intangible operating advantages resulting from instantaneous and direct communication between the supervision and yard power are obtained.

An analysis of the Selkirk records indicates that fog conditions prevail for about 54 eight-hour tricks during the year, and that by the use of the radio, increased classification of approximately 200 cars is obtained during these fogbound tricks. This represents about one day's saving on 10,800 cars annually at $1.15 per diem.

Report on Crossing Protection

The Committee on Highway Grade Crossing Protection submitted a new set of seven requisites for "No Right Turn" and "No Left Turn" signs, the first five of these requisites being as follows:

1. On highways adjacent to and approximately paralleling a railroad, which intersect or join another highway that crosses the railroad, electrically operated signs displaying the legend "No Right Turn" or "No Left Turn" on the approach of a train may be used to supplement the highway grade crossing signals which are located at the crossing.

2. The "No Turn" sign shall be legible only when crossing signal indicates the approach of a train. It shall be illuminated continuously without flashing during the period that crossing signals are operating.

3. The sign shall be supplemented by a flashing yellow marker light located above the sign. This yellow marker shall operate only in synchronism with the grade crossing signals.

4. The sign and marker light shall be operated by low-voltage electric lamp bulbs of the type used in highway grade crossing signals, arranged for operation from the same power source.

5. The sign and marker shall be supported by adjustable brackets on a mast preferably to the right of the parallel highway approaching the crossing, with the "No Turn" sign not less than 7 ft. nor more than 9 ft. above the surface of the highway. The marker shall be approximately 2 ft. above the sign.

Report on Signaling Practice

The Committee on Signaling Practices submitted reports on: (1) Noteworthy changes in signal practice; (2) uniform aspects and indications employing flashing-light or lights for railway signaling; (3) signs to designate the beginning and end of track circuit controlled signal systems; (4) means to denote stop signal in an absolute permissive block signal system; and (5) reflecting devices as a substitute for oil or electric lamps.

The report included diagrams of rules, indications and aspects applying to the practice of flashing-signal lamps to produce aspects different than those with the lamps burning steadily. With the three generally accepted colors, red, yellow and green, only the three corresponding aspects can be displayed by a single color-light signal head. By flashing any one lamp, a fourth aspect can be provided. For example, for several years the Illinois Central has used flashing yellow as the Advance Approach aspect to indicate proceed prepared to stop at second signal. This fourth aspect, flashing yellow, in addition to the three conventional aspects of red, yellow or green, being accomplished by merely flashing the yellow lamp in existing color-light type signals.

Also the committee presented suggestions that yellow-over-flashing-green could be used instead of the present yellow-over-green-over-green for the Limited Clear aspect, indicating proceed limited speed within interlocking limits. Red-over-flashing-yellow was proposed as the Medium-Approach aspect instead of the conventional red-over-yellow-over-red, and red-over-red-over-flashing-yellow was proposed as the Slow-Approach aspect.

The Electro-Motive Type F-3 Diesel

(*Continued from page 677*)

and in varying combination to equalize wear on the four units. The control of air volume is fully automatic, the number of fans in service and shutter openings being determined by thermostats affected by engine temperature. The a.c. drive also permits more advantageous location of traction-motor cooling fans and blowers; exhaust of hot air upward over the locomotive center, which eliminates blow-back to trailing units; use of inherently reliable a.c. motors without brushes or commutators.

The rearrangement of equipment on the basis of extensive Electro-Motive experience simplifies the engine-room layout and gives more space for inspection and maintenance work. For example, electrical and plumbing stacks are sub-assemblies, accessible from all four sides and easily renewable when necessary. Dynamic brake grids and associated machinery are all in one roof hatch which may be easily inspected and removed as a unit.

A new transition meter with short-time overload ratings has been greatly simplified, making it easier for the engineman to read and understand. It also gives a definite check on whether or not the train load is excessive for grade conditions.

Steam generators, with a capacity of 300 lb. per hr. for standby heating or 1,600 lb. per hr. for train heating, are of the Vapor improved type, more reliable and easier to maintain.

The new engine governor gives better synchronization of speed and power output and incorporates an electro-pneumatic throttle control and regulator pilot valve, with provision for automatic shut-down if lubricating oil pressure runs low.

For the first time the basic air-brake schedule can be used in conjunction with automatic train control, the electro-pneumatic portion of the air brake schedule and the dead-man control. This air brake schedule on the F-3 is designed to function satisfactorily with that on earlier Electro-Motive Diesel locomotive units.

The four-wheel truck design enables the locomotive to negotiate any curves which a freight car will take, and the outside swing-hanger design and balance between coil and elliptic springs assures unusual stability at high speeds. This truck, as well as all other details of the locomotive and power plant, is designed for high reliability and availability, with attendant low operating and maintenance costs.

How Rio Grande Supervisors Are Kept Posted

THE Denver & Rio Grande Western, which for some time has pursued a definite program for keeping its supervisory personnel informed and interested in the problems of supervision and of the company as a whole, has recently revised its methods to this end. Originally, supervisors and selected "understudies" from the various departments were brought to Denver in groups of about 20 for an intensive 3-day session of getting acquainted with headquarters problems and personnel. Discussions at these Denver meetings were conducted on the fundamental principles of supervision by a conference leader (the assistant chief of personnel) and talks were given by the trustees, the general manager and heads of departments. Each group toured the general offices and also was shown educational motion pictures.

Because of the shortage of hotel accommodations in Denver and the impracticability of bringing all supervisors to Denver more often than once a year, the program has been revised to provide for the holding of the supervisors' meetings at local division points, with either the chief or assistant chief of personnel in attendance. With the localized meetings, a larger number of supervisory personnel is included in the program, i. e., practically all supervisors, appointive and non-appointive, with employees under their direction are included, with provision for contact with individual supervisors at outlying points. To supplement these conferences a semi-monthly series of "supervision letters" has been inaugurated, each one calculated to inform the recipient on some important phase of the company's business. These circular letters are punched for easy retention in a 3-ring binder.

The first "supervision letter" in the new program went out on July 15 over the signature of Trustee Wilson McCarthy.

It described briefly the change in the company's educational program for supervisors, explaining why the change was made, and discussed the difficulties of supervision on the railroads, with personnel so widely scattered, as compared with the relative simplicity of the job in industry where all employees are located at one spot. The duties and opportunities of supervisors in public relations were discussed, with mention of the regular program of "supervision letters" to follow. Since the first such letter, others have been sent out as follows:

August 1—A simple discussion on the theme of costs, calling attention to the fact that the D. & R. G. W. had operated at a loss of $1,722,528 for the first six months and emphasizing the lesson that, as a practical matter, the railroad "must take in each year at least as much money as we have to pay out." June and six months' figures of operating revenues and expenses, and statistics of operating performance, were presented in tabular form, with brief interpretative text.

August 16—A description of the company's employee suggestion system and a bid to supervisors to publicize the plan among employees.

August 31—A discussion of means whereby an individual may judge whether or not he is doing as good a job as he can, and suggestions for improvement in personal efficiency by study; followed by tabulations of revenues and expenses and operating performance, with a textual report that the company had incurred a further deficit of $85,550 in July, bringing its cumulative deficit for the seven months to a total of $1,808,077.

September 16—A description of the organization of the D. & R. G. W. traffic department with location of important agencies—followed by a table showing comparative six-months' revenues (this year and last) by principal commodity groups.

October 1—A discussion, from the point of view of an employee, of the value of a "pat on the back" from the boss—and a reminder that good discipline calls for awarding merit marks where deserved as much as assessing demerits for infractions. More revenues and expenses figures were given, disclosing that the company in August earned a net income of $71,424—the first month of the year when net earnings were shown, and serving to reduce the cumulative deficit for the eight months to $1,736,653.

Unusual Methods for Big Trackwork Job

Twenty-seven special units for important crossing at Chicago were completely pre-assembled and installed with aid of lifting frame embodying an old truss span

By T. H. BEEBE
Chief Draftsman, Chicago & North Western

AN interesting installation of pre-assembled special trackwork, in which the units were lifted and placed with the aid of a special arrangement employing a secondhand truss span 86 ft. long, was made recently by the Chicago, Milwaukee, St. Paul & Pacific and the Chicago & North Western at the crossing of their main lines near Western avenue and Kinzie street in Chicago. This location is about three miles west of the respective passenger terminals of these lines, and is situated between these terminals on the one hand and the passenger-train yards and engine-terminal facilities of the two roads on the other, with the result that, in addition to the regular train movements, there are many back-up and switching movements over the crossing between the yards and the passenger stations.

A Busy Crossing

All passenger trains of the Milwaukee, including its "Hiawathas," pass over the crossing, as well as all through trains of the North Western to Omaha, Denver and the Pacific Coast, including the "Streamliners" and the "Challengers." In addition, both roads maintain a heavy suburban service between downtown Chicago and the western metropolitan area, resulting in peak movements over the crossing during the morning and evening hours. Although the traffic consists predominantly of passenger trains and passenger-train equipment, it also includes a considerable number of freight and interchange movements, participated in by the Pennsylvania, the Baltimore & Ohio, and the New York Central.

The average number of movements over the crossing in a 24-hr. period is 650, of which about 500 are in the 13-hr. period between 6:00 a. m. and 7:00 p. m. The crossing, which is at grade, consists primarily of a Milwaukee four-track system intersecting a North Western four-track system at an angle of 8 deg. 10 min. 16 sec., with necessary double-slip switches, turnouts and crossovers to facilitate train movements.

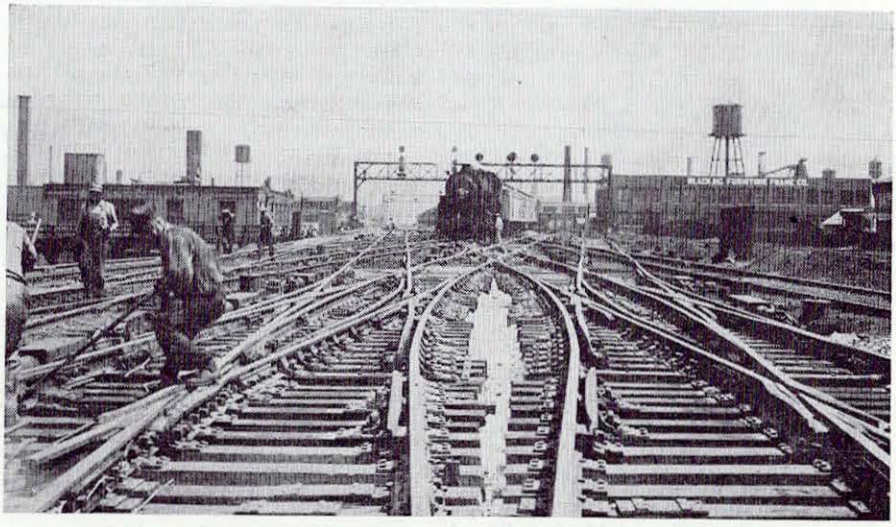
As the result of a joint engineering survey of the existing track layout, made by representatives of the two roads, the decision was reached to preserve the original alinement of both companies on 13-ft. track centers, with certain exceptions. The alinement was made tangent through the crossing except for certain portions of the Milwaukee's freight mains (Tracks No. 3 and No. 4), which are on 12-deg. 30-min. curves through five units, two of which are double slips. The track centers of these mains at the westerly end of the plant were changed from 13 ft. to 15 ft., which required a curvature of 3 deg. 11 ft. through a rigid-frog crossing. Another decision was to use the Milwaukee's rail section (13128) for all of the trackwork, except for one No. 10 double-slip switch and four turnouts exclusively in North Western trackage, where the 11228 rail section was used.

In the crossing system proper there are 19 units, consisting of eight No. 7 movable-point crossings, seven No. 7 double-slip switches, two rigid-frog crossings, a lap turnout (No. 17 on the diagram), and a special turnout with leads curving in opposite directions, not equilateral (No. 19). In addition, the North Western renewed a No. 7 double-slip switch and two No. 7 turnouts with 13128 material.

Plans were prepared on the basis of the established alinement, and the dimensions computed carefully. Because so many routes were involved, a large number of insulated joints was required, the locations of which were carefully established by the signal departments of the two roads with the objective of keeping the dead space in track circuits to a minimum. Allowance was made for the end posts of the insulated joints in computing rail lengths. New switch machines were furnished and installed on each unit as it was assembled, and upon completion of the assembly, but prior to installation, the operation of the machines was thoroughly tested.

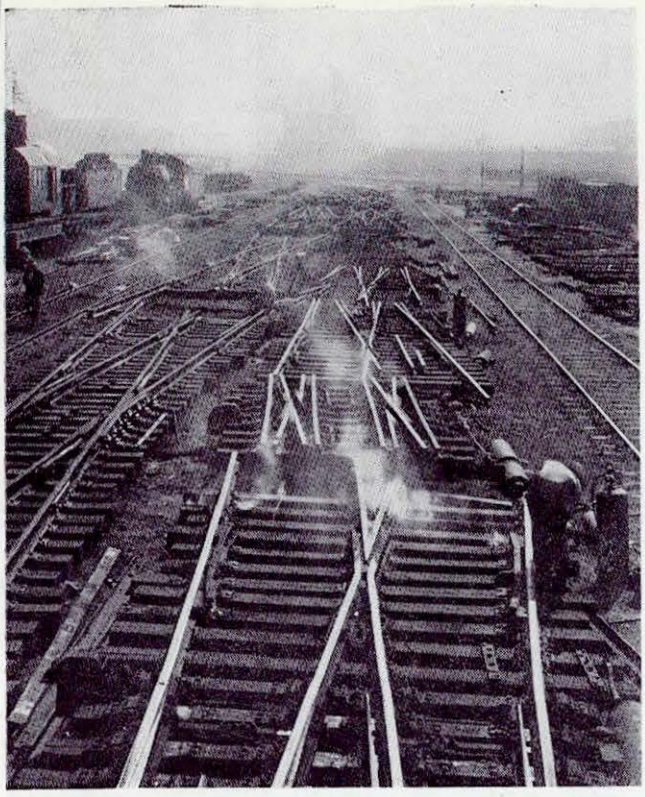
A Plan Adopted

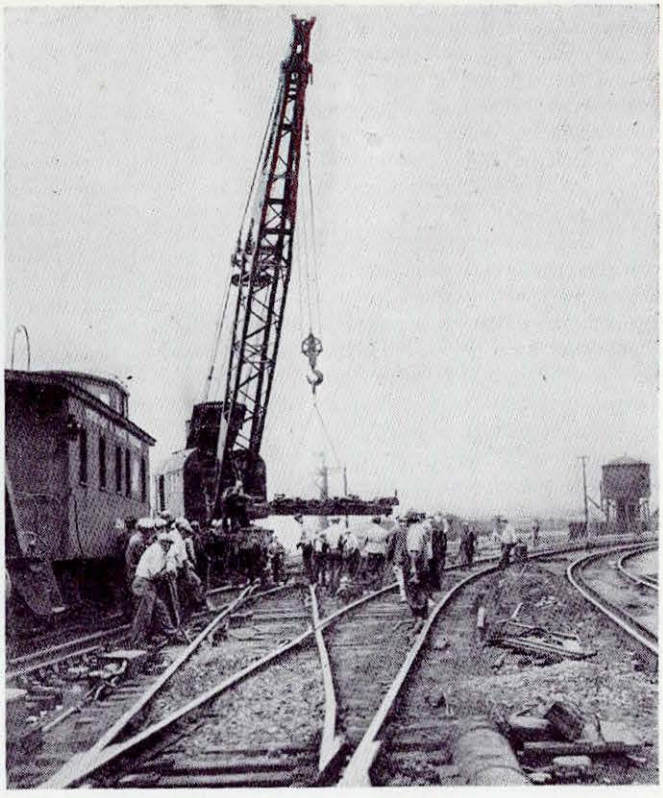
In view of the difficult problem posed by the heavy traffic moving over the crossing, joint meetings were held by the operating and engineering officers of the two roads to determine a method of installation and a procedure which would minimize traffic delays. As a result it was decided to completely assemble the units out of track at convenient locations close to the crossing.



A part of the complicated, multiple-track crossing of the Chicago & North Western and the Milwaukee at Western avenue, Chicago, showing two of the new double-slip switches in the foreground

Adapted from a paper presented before the annual convention of the Roadmasters' Association at Chicago on September 19.





Left—Some of the 27 units of special trackwork as assembled in a nearby yard for movement as complete units to points of installation. Right—An old double slip being lifted out one-third at a time, the parts being stacked on a flat car

A schedule was prepared covering the installation of the 27 units in 25 consecutive days.

A diagrammatic plan of the crossing was prepared, on which each of the Milwaukee and joint units was identified by number and the North Western units by letter. A white print of this plan was then made and colored for each of the 25 days' operations. On each day's plan the unit to be placed on that day was colored in red—meaning that the trackage involved was out of service—and the adjacent trackage which would be temporarily used at intervals by work trains was colored yellow. Copies of these plans were furnished to the operating departments for their use in rerouting traffic and to the engineering officers in charge of the field work.

The Milwaukee's four units were assembled in a yard of this company northwest of the site, and the North Western assembled 18 units in a yard approximately 1,000 ft. west of the site. The remaining five North Western units were assembled in available space immediately adjacent to their final locations. Each unit was completely assembled on 7-in. by 9-in. creosoted ties, with all plates, switch rods, switch machines, joint bars and bonding in place, so that when a unit was set in final position it was only necessary to make the end connections, and to connect the control wires and air to the electro-pneumatic switch machines.

To make certain that there would be no distortion of the assembled units in handling them from point of assembly to final position in the track, and to enable the assembled units to be accurately placed with no temporary blocking between the bottoms of the ties and the tie bed, a special method of handling the units was devised which fulfilled both of these conditions. As one of the assembled No. 7 double-slip units, complete with switch machines and ties, was 82 ft. long, exclusive of the attached stock rails, and weighed 42 tons, a rigid lifting arrangement of considerable length was needed. To meet this requirement a secondhand riveted span was used, consisting of two trusses 6 ft. in depth, 86 ft. in length, and spaced 5 ft. 6 in. center to center, with reinforced cross connections.

In arranging the lifting device, switch ties were placed transversely on top of the track units to be handled and the truss frame was set on top of these. The switch ties were spaced 13 ft. 10 in. apart to fall under alternate panel points of the truss frame. A temporary supporting rail was then placed transversely under the track unit rails, between the ties, at the location of each of these switch ties, and the truss was attached to the unit by wrapping a heavy chain around each of the supporting rails and the bottom chord and floor beam above it. The slack was taken out of the chains with wood wedges. Each unit was lifted by a locomotive crane at each end, attachment being made to the top chords by the conventional bridle to hold the unit level, and was loaded on two empty flat cars placed between the cranes. The unloading was a reverse procedure after movement to the point of installation by work train. This part of the work was handled by a steel bridge erection crew.

The Procedure

The sequence of each day's work was as follows:

(1) Final cleaning of the cribs of the unit to be changed was carried out by a track crew of approximately thirty men, starting at 7:00 a. m.

(2) At 8:30 a. m., or somewhat later, the track involved was turned over by the operating department, at which time the old unit was cut into three sections with oxy-acetylene torches, and a work train, including a locomotive crane and an empty flat car, was moved in on adjacent track and the cut sections loaded. This operation usually consumed about fifteen minutes.

(3) The old tie bed was broken up with hand picks and mechanical tampers equipped with bull points, and was excavated to a depth of about four inches below the bottoms of the old ties. The excavated material was temporarily piled wherever it would not interfere with traffic. This operation consumed

considerable time, due to the limited number of men who could be worked in the area and the compacted nature of the old tie bed, being usually completed between 12:00 and 12:30 p. m. At the same time, the ends of any of the old ties which would interfere with the placing of the new unit were sawed off with a power chain saw.

(4) The new unit, loaded as stated on two flat cars between two locomotive cranes, was brought up by work train and set in place to accurate location determined by transit. This operation consumed 25 to 30 min., a considerable part of this time being used in getting the unit accurately placed.

(5) The end track connections were then made, along with the signal and air connections to the new unit. Short batter connecting rails were furnished with the units for connection to the old 10035 rail sections, and these, together with the standard compromise and insulated joints needed, were brought in fastened temporarily to the unit ties. The use of batter rails was desirable to permit the installation of insulated joints in their final location, and in all cases the old rail was cut back to permit their installation. This practice eliminated any cutting of the new rail. Power rail drills and power bonding drills were used where necessary in making the connections. This phase of the work usually consumed from 30 to 40 min.

(6) New stone ballast, along with a Burro crane mounted on a flat car for unloading it, was brought in by work train, and sufficient ballast for temporary surfacing was unloaded on the unit, which was then raised and tamped to surface, and the track restored to service between 4:00 and 5:30 p. m.

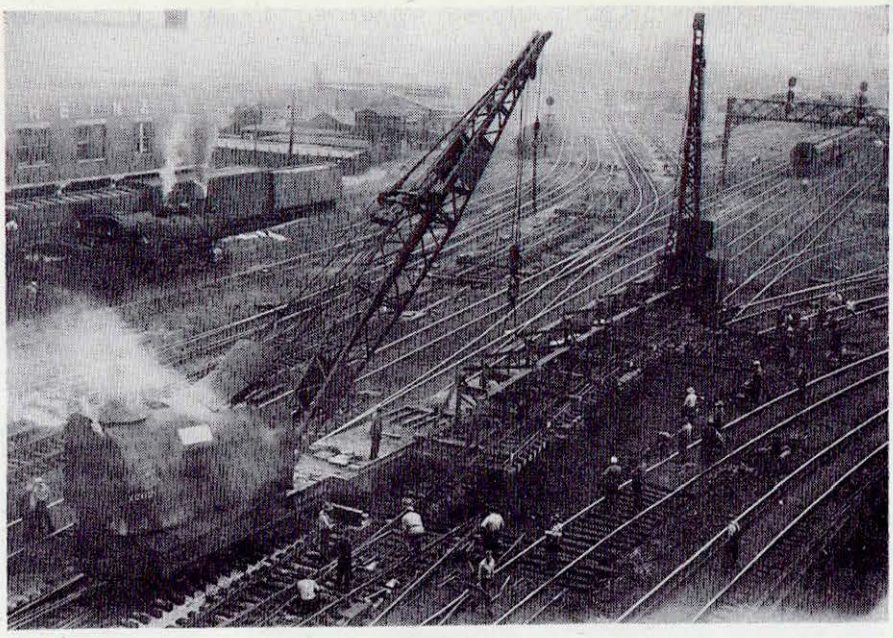
(7) Track forces cribbed out the old unit to be replaced the following day, and bridge forces fastened the lifting arrangement in place on the next new unit to be installed.

The old ballast was loaded at opportune times by locomotive crane or by casting it over the retaining wall into trucks on the street below, this being Western avenue, which is carried under the tracks in an underpass.

Completed on Schedule

The work was started on schedule on August 4 and was completed on schedule on August 28. One day was lost unavoidably by reasons having no relation to the project, but this was later made up by the installation of two adjacent units on the same day. The assembly, installation and initial surfacing of the 27 units required 36,413 man-hours of work with no accidents other than one reportedly sprained back.

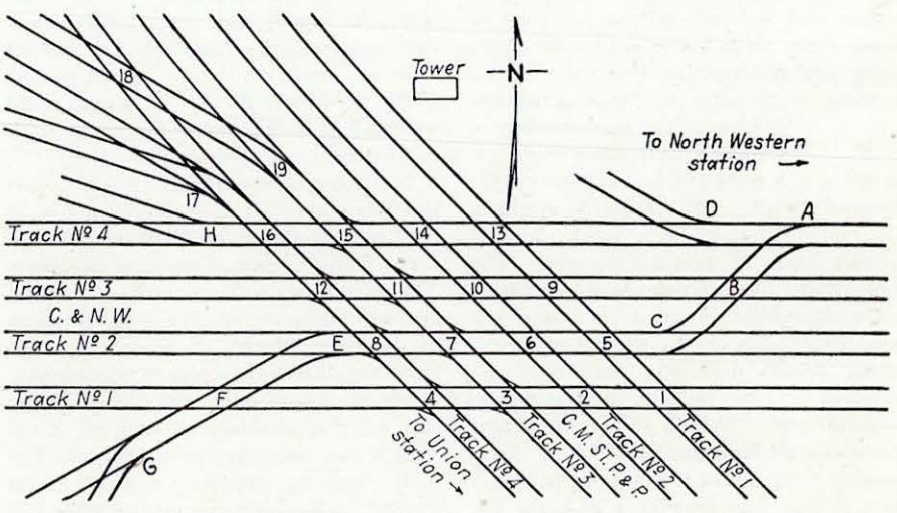
The final surfacing is still in progress. It is planned to install rail and flange lubricators on the tracks approaching the crossing to reduce wear on the curved portions of the double-slip switches and turnouts.



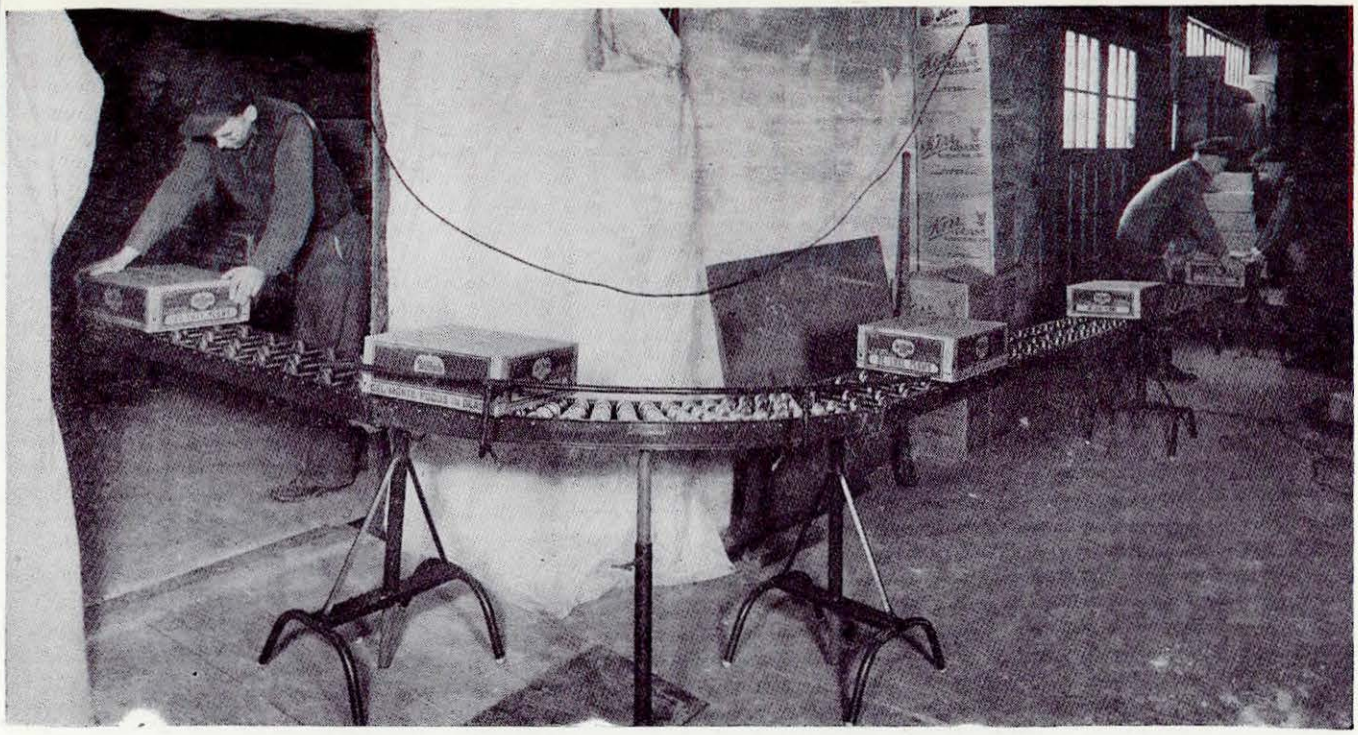
Two Brownhoist cranes setting a new, truss-supported double slip in position on a new tie bed

The plans for the special trackwork were prepared by the author and A. F. Huber, chief engineer, Ramapo Ajax Division, American Brake Shoe Company, under the supervision of C. T. Jackson, assistant chief engineer of the Milwaukee, and E. C. Vandenburgh, at the time engineer of maintenance of the North Western, and now chief engineer. The units were fabricated by the Ramapo Ajax Division in accordance with final detail drawings prepared by its engineering department.

The plans for installing the units were prepared by G. A. Saint, assistant engineer of the North Western, who followed this phase throughout the progress of the work. The installation work was supervised by T. H. Strate, division engineer, and D. H. Herlihy, roadmaster, both of the Milwaukee, and P. V. Thelander, division engineer, and J. E. Wilkinson, roadmaster, both of the North Western. The signal and interlocking work was supervised by M. H. Schmidt, supervisor telegraph and signals of the Milwaukee. The work was carried out under generally favorable weather conditions. No difficulty was experienced with misfit material and no unforeseen difficulties interfered with the procedure as planned.



Diagrammatic drawing of the Western avenue crossing, showing how the 27 units of special trackwork were identified by numbers and letters



Lightweight roller conveyors are used at many important terminals and are playing a major role in expediting express shipments

Better Service for Express Customers

Through the use of modern equipment and operating techniques the Railway Express Agency exercises close control over more than 500,000 shipments daily and assures safe and speedy deliveries

By C. GILBERT PETERSON

Chief Engineer, Railway Express Agency

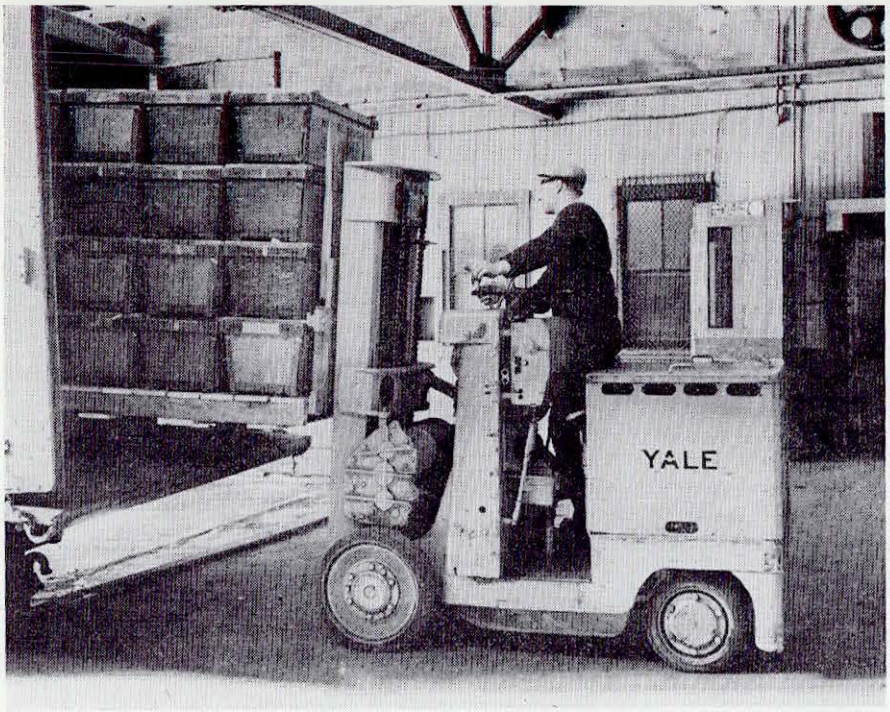
PACKAGING and material handling systems have a direct bearing on the quality of service that can be provided by any transportation organization, and packaging engineering and other packing developments that will effectively decrease damage to shipments are of vital importance to shippers. Last year claim payments to express customers for loss and damage reached the alarming total of more than $14,000,000.

The volume of traffic handled by Railway Express is measured in the number of shipments. These shipments for all classes of service, including full carloads, air express and all others, but not including l. c. l. freight, totaled 209,-181,000 in 1945. Express traffic has increased during 1946, and the 16,843,000 shipments handled in July indicate a gain of 12.3 per cent over the same month in 1945. Ton-miles are not a useful unit of measurement in express service, and definite data in this regard is not accumulated, but for various purposes analyses have been made from which can be computed a nation-wide ton-mile estimate. From an analysis of the l. c. l. rail express business made in May, 1944, it was estimated that for that year l. c. l. rail express traffic totaled 3,274,000,000 ton-miles. There were 198,500,000 shipments during 1944, which were estimated to average 56 lb. each, or a total of 5,500,000 tons.

These figures indicate an average of 500,000 shipments each day, although this total is exceeded during rush days of the week and also during peak periods of the year. Tests reveal an average of 1½ pieces in each express shipment. Each shipment afforded pickup and delivery service, whether it is forwarded by rail, water, air or highway, is handled a minimum of 12 times. In addition, shipments transferred en route, or which pass through assorting stations, move in air express service, or are iced in transit, require additional handlings. An extension of these data indicates that Railway Express averages about 10,000,000 physical handlings of shipments a day. This is a magnitude of physical handling far greater than that performed by any other private organization. Many of these physical handlings are in conjunction with the assorting of shipments for vehicle routes and for individual railroad cars. Other handlings are required for weighing and pricing individual shipments and writing up tallies necessary to safeguard delivery.

Assorting difficulties increase rapidly with the volume of traffic handled at a city terminal. The express business is one of the few where the unit costs at a large terminal increase with the volume of traffic handled, just as the complications for telephone service in a large city increase the unit cost to subscribers. To facilitate the necessary assorting, new types of handling equipment have been developed or adapted and, in addi-

This article is an abstract of an address at the Packaging Engineering Clinic sponsored by the Detroit Board of Commerce September 5.



Fork lift trucks are proving useful in handling large bulky shipments and extensive tests are being conducted to determine their range of usefulness

tion, extensive use is made of various standard types. To accomplish the daily task of expediting and safeguarding the half million shipments entrusted to its care, the following facilities and equipment are utilized.

Use Many Platform Trucks

Platform trucks with their various accessories are the most widely used pieces of handling equipment in express service and there are more than 48,000 in daily use. Two-wheel trucks of various sizes are supplied, some of lightweight construction for use by vehicle drivers in delivering trunks and other heavy shipments, and some of heavier types for platform work.

The high-type 4-wheel platform truck is used at practically every express station. Most of these trucks are fitted with racks to increase the capacity and decrease the possibility of merchandise falling off. The current model consists of a steel chassis with solid rubber-tired, roller-bearing wheels. They are supplied with towing couplers and counterweighted handles. Service tests have been conducted with pneumatic-tired wheels which were found particularly effective where rough crossovers or heavy snowfalls were encountered.

Tests are also being made of elevating bodies mounted on steel chassis trucks so that the body of the truck can be raised flush with the sill of the car door. If successful, these trucks may be a step forward in expediting the handling of shipments at way stations to decrease the detention time of trains. Experiments have also been conducted with self-actuating brakes on the front wheels of these trucks to decrease the possibility of accidents.

Drop frame trucks, because of their greater capacity and direct steering, are used at some terminals where they operate on passenger platforms. Many of these trucks are powered by storage batteries, but service tests are now being conducted with a self-contained gasoline motor. A useful accessory for moving heavy shipments on or off high four-wheel trucks is the safety roller skid. This operates as an inclined roller conveyor upbound, but descending the rollers automatically lock to form a skid.

Railway Express was one of the first common carriers to make extensive use of tractor-trailer trains. Soon after World War I many terminals were furnished equipment so that trains of 8 to 10 trailers could be quickly towed by a tractor between cars and street vehicles. A number of these low trailers can be parked close together to facilitate assorting shipments according to destinations. More than 8,000 of these low roller-bearing trailers are now in use, and practically all are fitted with removable tubular steel end racks which can be inserted in the side sockets when desired. For terminals using tractors, the usual practice is to use gooseneck hook couplers, but automatic couplers are also giving good service.

A majority of the platform tractors are the four-wheel gasoline-powered type, capable of towing long trains of either low trailers or high four-wheel trucks with racks. Express terminals have been equipped with more than 525 platform tractors, of which about 10 per cent are electric-powered.

Conveyors Speed Handling

Lightweight magnesium roller conveyors were adopted by Railway Express as standard for portable use in 1938, after a series of developments and experiments made for the company by several manufacturers. These conveyors have extruded side channels, rollers and through rods of Dowmetal. The current model has rollers 16 in. long, mounted high on 4-in. centers with 3½-in. channel side frames. Adjacent sections can be coupled together quickly with stud and slot couplers which require little maintenance. A section length of 10 ft. is considered standard, but some 8-ft. sections are used, especially for extensions of runs into street vehicles.

One of the outstanding advantages of roller conveyors is their light weight—67 lb. for a 10-ft. section. This feature enables one man to move a section readily as the position of the lading changes in the car or vehicle being loaded or unloaded. A handle riveted to the side at the center of gravity enables one man to carry a 10-ft. section easily. The non-corrosive properties of Dowmetal have been well proved in the eight years' use of this material. Many roller conveyors are exposed to rain and some terminals are built on piers over salt water, but practically no bad effects from corrosion have been noted.

Through the use of these lightweight conveyors, the unloading of a car or truck can be stepped up 50 per cent or more over hand operation, and they can be quickly set up in long runs to expedite assorting shipments. At many terminals where the morning conveyor set-up used when assorting inbound shipments for delivery routes is entirely different from the arrangement used at night for assorting outbound shipments, the lightweight feature enables the rearrangement to be made quickly.

Wood sawhorses are used as legs for the roller conveyors as they are easy to build or buy in various heights that will give the incline desired. Stops are used to prevent shipments falling from the end section and rider boards are provided where many soft pieces, such as duffle bags or bedrolls, are handled. Turns with tapered steel rollers and an outside guard are provided in 45-deg., 60-deg. and 90-deg. curves.

Weighing scales with a section of roller conveyor mounted on the platform, when placed in a delivery run of roller conveyors, enable the weigher to chalk the weight rapidly on each shipment as

it passes his position. Computing scales that indicate the first-class charges are being service tested—some show charges for 25 zones and others for 50 zones. These scales are also set up in the roller conveyor runs.

Booster belts have been supplied many express terminals where the runs of roller conveyors are too long to be set at a pitch that will permit a steady flow by gravity. Live roller conveyors are used to a lesser extent, partially for this same purpose, and also in certain conveyor set-ups they are used to facilitate the work of assorters marking route numbers on shipments.

Overhead Chain Conveyors

During 1937 the principle of overhead chain conveyors was adapted to expedite the assortment and movement of shipments in large and congested terminals.* This was accomplished by coupling platform trucks to a chain which tows them as one long endless train moving in a closed circuit. Additional decks were added to the trucks to increase their capacity and facilitate picking off. The shipments are assorted either by marking them or by building separate bins for different destinations on the multiple decks of the trucks. At the discharge section pickers remove such packages as are intended for the car or truck each is loading. Large lot shipments are loaded on a platform trailer, which is coupled to the chain, towed to the desired location and then uncoupled by the car or truck loader.

This principle of continuous flow provides a capacity of 8,000 to 12,000 pieces an hour, accomplishing not only the assortment of shipments, but also their transport between cars and street vehicles or, as at the Jacksonville, Fla., terminal, their transfer between inbound and outbound cars, including the necessary classification and assortment by destinations. The usual speed is from 80 ft. to 120 ft. a minute.

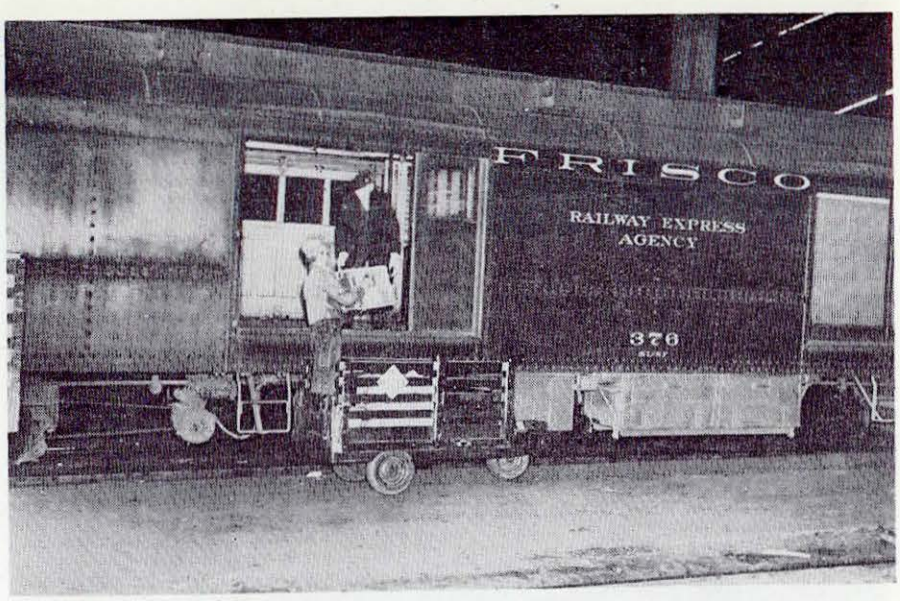
Since Railway Express pioneered the overhead chain principle in truck-to-truck, truck-to-car, and car-to-car transfer, 12 of these chain conveyors have been installed at terminals with a total length of chain approaching three miles. Many other transportation organizations have studied these installations and have considered the adoption of this principle.

Railway Express is one of the few transportation agencies to make widespread use of packing containers for line hauls. Notwithstanding some of the disadvantageous characteristics of containers, including storage space for empties, deadheading, maintenance of an adequate supply at large forwarding terminals, and the smaller number of shipments that can be loaded in a car or truck, the advantages of minimizing the number of handlings with unit loads, plus the added protection they afford against loss or damage of shipments, make containers very useful.

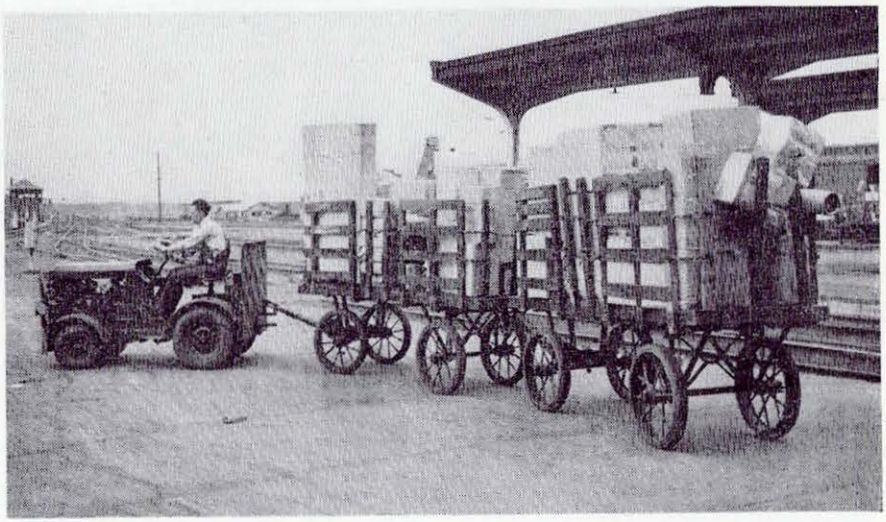
About thirty large express terminals have been provided with gasoline-powered fork lift trucks of 2,000 to 6,000-lb. capacity. During the war these trucks were found to be extraordinarily useful for handling the large and heavy shipments moving with great frequency.

A determined effort has been made since the war to utilize these trucks in handling loaded pallets. A number of different sizes and types of pallets have been used in these experiments, but so far no outstanding advantages have been developed for the combined use of pallets and fork lift trucks. For some operations, at different terminals, they have been found useful, but these are isolated cases. Full carload tests with uniform size packages strapped on pallets revealed little or no improvement over loading and unloading with roller conveyors. The variety of sizes and shapes of express packages limits the height to which they can be stacked on pallets and increases the time required for "bricklaying" the stacks.

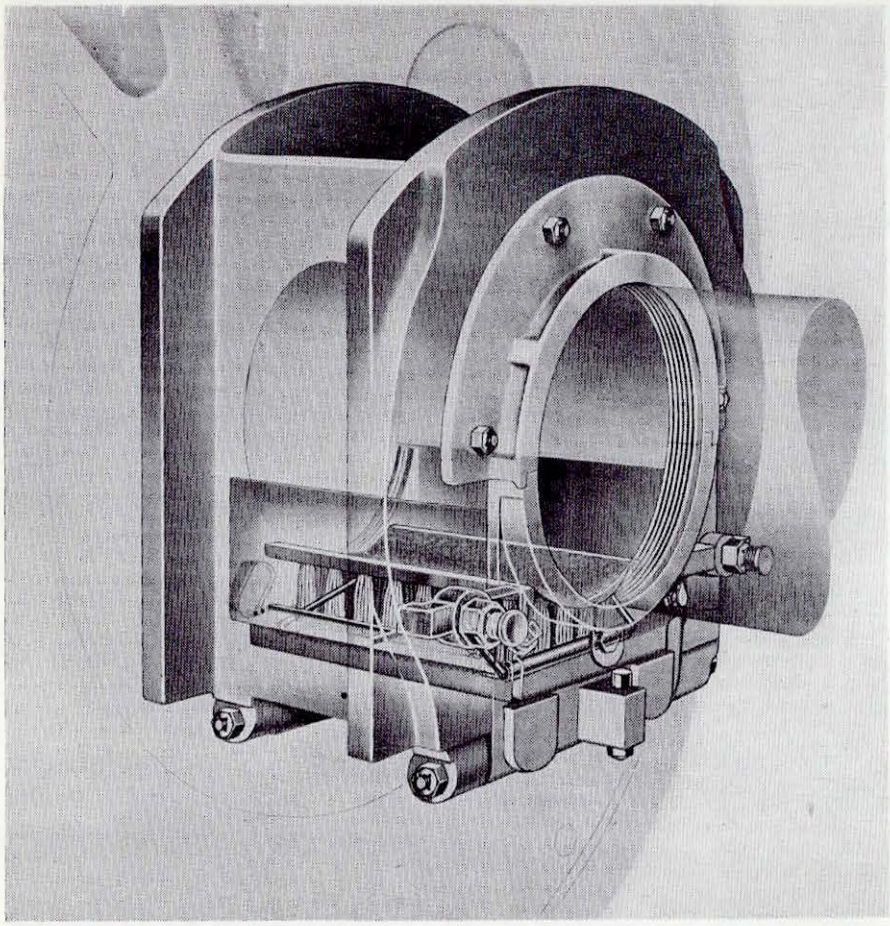
The non-uniform heights of platforms, express cars, refrigerator cars and floors of automotive trucks, together with the narrowness of some platforms and aisles, all contribute to the difficulties that must be surmounted before efficient use can be made of pallet unit loads in express service. Notwithstanding the difficulties to be overcome, studies and experiments are being continued to ascertain if the use of pallets can speed up deliveries to express patrons.



Above—Chore Boy delivering packages to an express car at St. Louis, Mo. The tricycle steering arrangement and short wheel base make this vehicle highly maneuverable and well adapted to this type service. Below—Tractor-trailer train hauling express shipments at Omaha Union Station. Drawbar pull of 2,600 lb. and short turning radius permit hauling heavy-loaded trailers through narrow-aisle warehouse



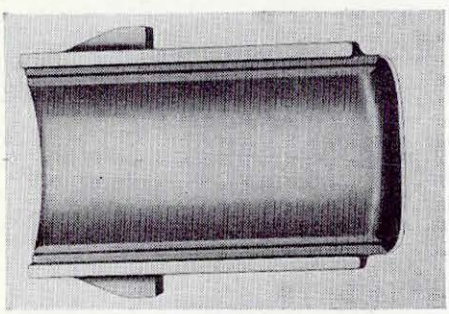
* See *Railway Age*, October 6, 1943, for description of conveyor system installed in New York West Side express terminal.



Magnus locomotive journal lubricator with the cellar latch placed at the side instead of on the bottom of the box

Magnus Journal-Box Devices

The type of oil-lubricating device developed by the Magnus Metal Corporation for use on locomotive driving journals is designed to increase the life of both journal bearings and lateral faces of boxes as much as three to five times, and greatly lengthen the road mileage between classified repairs. This lubricator has been substantially improved, as shown in one of the illustrations, by a new latching arrangement which gives rigid alignment between the driving box and the oil cellar, and a tight fit which prevents movement between the cellar and the box, thus reducing wear. The latches, formerly at the bottom of the box, have been redesigned and placed at the sides, making the lubricator easier to operate and service.



Magnus stop-grab journal bearing

The Magnus journal lubricator pad for engine-truck, trailer-truck, tender-truck, and car journals, dispenses entirely with the conventional type of packing. With this device, waste grabs are eliminated and extensive applications in high-speed passenger service are said to have shown superior results as compared with conventional packing previously used. This pad has been altered by sewing the cotton strands which draw the oil up from the cellar to the pad through the top fabric, to assure a more plentiful supply of oil to the journal. A still further refinement is the elimination of the oil sub cellar formerly used in this assembly. This prevents loss of oil by splashing and affords easier removal of the lubricator pad from the box in servicing.

The Magnus Stop-Grab journal bearing, shown in a second illustration, is made with ledges of brass 7/16 in. high extending along the length of the bearing on both sides of the brass. These ledges are designed to retard waste-grabs and reduce running temperature by providing a ventilated air space between the lower edges of the bearing and journal.

The Magnus Twinplex hot-box alarm is applied to a standard A. A. R. or other-type bearing. It consists of two brass tubes each having a small orifice sealed with fusible metal which melts at 325 deg. F. If the bearing reaches this temperature, one of the tubes releases a distinctive and penetrating odor and at the same time the other tube releases a large volume of dense white smoke. The discharge continues until both tubes are empty, which requires about eight minutes, thus giving a positive alarm signal in case of an overheated bearing. The cartridge of the Twinplex hot-box alarm has recently been redesigned to prevent any leakage of chemicals, by the use of a special sealing arrangement using conical-shape brass plugs and a heavier section of metal at the threaded end of the tube.

Lawrence Universal Pallet

The Lawrence Universal Pallet Corporation, San Francisco, Cal., has developed a standard pallet designed to receive merchandise at its source and carry it as a unit load through all channels of distribution. Distribution of these pallets to shippers of merchandise throughout the country will be managed by the Lawrence Pallet Exchange through the facilities of the Lawrence Warehouse Company, nationwide field warehouse operators. Lawrence pallets are to circulate like box cars and will be delivered and re-delivered in carload lots between members of this exchange.

Weighing approximately 50 lb. and measuring 40 in. by 48 in., the pallets

Lawrence pallets have a one-ton capacity and help to effect economies in loading goods into box cars as well as in stacking materials for storage

are made of replaceable wood components and can be lifted by a fork lift truck from four angles of approach. Their construction features rounded corners, which are said to minimize splitting of the stringers and top and bottom boards, and the use of flush-type nuts, by means of which a smooth loading surface is achieved. An anti-racking device is provided on the bottom boards as well as on center stringers, while round-headed bolts on the bottom permit gliding action and protect against abrasion of freight car and warehouse floors.

GENERAL NEWS

I.C.C. Gets Railroad Ex-Parte 162 Brief

Adjustment of rates to price structure is called major post-war problem

Pointing up their contention that an adjustment of their rate structure to the general price structure prevailing in the post-war economy is "one of the most important, if, indeed, not the most important" of the domestic problems now facing the country, the railroads this week rounded out their plea to the Interstate Commerce Commission for authority to make a general increase of 25 per cent in freight rates, with certain exceptions which would bring the over-all advance down to an average of about 19 per cent. The carrier attorneys, headed by J. Carter Fort, vice-president and general counsel of the Association of American Railroads, thus got under way the review of evidence and supporting argument embodied in a 200-page brief filed October 25 in the Ex Parte 162 and reopened Ex Parte 148 proceedings wherein the roads are also seeking authority to continue in effect without expiration date the wartime increase of 10 per cent in passenger fares which was authorized in Ex Parte 148 and is scheduled to expire six months after the legal termination of the war.

The original railroad petition sought authority to make the proposed increases effective last May 15 in advance of hearings; and the commission heeded that plea to the extent of authorizing, after brief hearings, the freight-rate increase averaging about 6.5 per cent which has been in effect since July 1 as a temporary emergency matter pending the full hearing. This interim report of June 20 was reviewed in the *Railway Age* of June 29, page 1262. Then came the "full" hearing which closed at Washington, D. C., on September 20 and was followed by the oral argument, completed on September 28.

The railroad brief in general was a comprehensive summing up of the carrier position that the present and prospective traffic volume is adequate to support the industry if the commission removes the difficulty arising from the fact that "in a world of greatly increased wages and prices, freight rates remain on a pre-war level."

Regulatory Landmark—"This case," the brief said, "will be a landmark in the development of governmental regulation of transportation, because it presents the first real test, in actual administration and application, of the National Transportation Policy as expressly declared in the 1940 amendment to the Interstate Commerce Act." Special attention is called to those parts of the policy declaration which assert Congress' purpose "to foster sound economic conditions in transportation" and "to promote safe, adequate, economical and efficient service."

"The ultimate question presented in this proceeding," the brief continued, "might perhaps be fairly stated as follows: In a period of heavy traffic, when the prices of commodities are high and business activity is great, should the earnings of the railroads be held down by government mandate to a poverty level although economic conditions are such as to permit adequate and even ample earnings? In the light of the National Transportation Policy, it is plain that there can be only one answer to this question. . . . The only hope of relatively lower rates as time goes on is to be found in a dynamic, progressive railroad industry."

The railroads' 1947 labor costs including payroll taxes, it is asserted, will be $1,655,240,000 greater than they would be if calculated on the 1940 basis. Costs of materials and supplies are up $521,000,000. Of this total increase of $2,176,240,000, the brief said, "more than $1,000,000,000" is due to developments on or after January 1, 1946. It calculated that freight-rate increase of 38 per cent would be required to restore the 1941 relationship of rates to commodity prices.

Deficit Without Carry-Back—The indicated 1946 net income is put at $203 million after carry-back tax credits, "largely non-recurrent," of $174 million. Without these credits, the year's deficit would be $29 million. If nothing more than the interim increase of 6.5 per cent were in effect throughout 1947, it is estimated that the deficit for that year will be $225 million, after carry-back tax credits. The estimate indicates that the deficit without benefit of such credits would be $312 million. If the full increase sought is granted, the 1947 net income is estimated at $252 million, which is called "extremely meager and far

(*Continued on page 695*)

Daniel Upthegrove Dies at 75

Daniel Upthegrove, who retired on September 15 as president of the St. Louis Southwestern and its affiliates and chief executive officer of the system for trustees died at St. Luke's hospital, St. Louis, Mo., on October 22. He was 75 years of age.

Mr. Upthegrove served the Cotton Belt for more than 50 years, 24 of that as its president, as was reported in a review of his career in the *Railway Age* of September 21, page 474.

Kendall Emphasizes Bad Car Situation

Reports inexhaustible demand for box cars and increasing l.c.l. congestion

What "appears to be an inexhaustible demand for box cars," the "heaviest on record" requirements for coal cars, and the "congested l.c.l. situation" which has grown "steadily worse" combine to make it "absolutely necessary that there be continued the most efficient handling of cars by shippers, receivers, and by the railroads," Chairman Warren C. Kendall of the Car Service Division, Association of American Railroads, said in his latest monthly review of the "National Transportation Situation." Mr. Kendall reported that the current month has assumed October's usual role as the month of peak loadings, and "demands for cars are increasing in all areas."

The Car Service Division, he went on, "is exerting every effort to arrange an equitable distribution of cars to all sections of the country," and the cooperation of shippers and receivers in promptly loading and unloading cars "is a contributing factor of great importance." Nevertheless, the car situation "continues to be serious and we are likely to be faced with this difficulty for a period of weeks if not possibly months."

L. C. L. Rule Relaxed—Mr. Kendall attributed the "inexhaustible" demand for box cars to the movement of crops, the increasing need of cars for industrial loading and the heavy run of l. c. l. business. On the supply side, he noted that "strikes throughout the country, particularly the maritime strike at ports, continue to take a substantial number of box cars out of circulation." In the C. S. D. chairman's discussion of the equipment conditions by type of cars, the l.c.l. situation this time gets first place, usually reserved for his comment on "closed" car conditions generally.

With respect to l.c.l., Mr. Kendall reported that the Office of Defense Transportation, on recommendation of the railroads, had "materially relaxed" certain provisions of its l.c.l. minimum loading order (General Order ODT 1, Revised) which has required generally that the minimum load of l.c.l. cars be 20,000 lb. "Effective October 21," Mr. Kendall explained, "westbound and southbound loading l.c.l. freight, by either shippers or carriers from Official territory east of the Indiana-Illinois state line (not including any point within the Chicago switching district) will be permitted without specific weight limitation; eastbound l.c.l. freight from the same terri-

(*Continued on page 695*)

Orders Canadian RRs To Increase Wages

Rise of ten cents an hour granted by National War Labor Board at Ottawa

The National War Labor Board at Ottawa has directed the Canadian Pacific to grant a basic wage increase of 10 cents an hour or its equivalent to all its employees other than those in train and engine service, the increase to be effective from June 1. A similar increase was granted by the Canadian National to the same classes of employees on August 26. Another order of the board, issued at the same time, gave an increase of 10 cents an hour to the employees of both the Canadian Pacific and Canadian National represented by the Brotherhood of Railway Trainmen so that practically all employees of both major Canadian roads get the wage boost, all effective from June 1.

These decisions were made as a result of applications from brotherhoods representing employees of the railways in Canada, but the board in issuing its order directing the increase to the engine and train service employees bluntly dismissed the contention of the brotherhoods that the National Labor Board was empowered to accept for comparative purposes wage rates paid their Canadian employees by American roads operating in Canada, which rates conform to wage scales paid to similar occupational classifications in service of those American roads outside Canada.

The railway companies and the brotherhoods presented their arguments to the board on September 25 in the case of all but the train and engine services. The board's finding in that case had this to say about the financial positions of the railways, which had presented to the board their financial statements on operations from 1939 to 1945 inclusive:

"The statements of the Canadian Pacific show enormous increases in gross earnings from 1939 to the peak year 1944, $151,280,700 to $318,871,034. In 1945, gross earnings amounted to $316,109,358 and it is estimated that the 1946 earnings will amount to approximately $278,409,000. Thus a downward trend in earnings is indicated.

"On the other side of the Canadian Pacific ledger, it is shown that the working expenses were $122,756,880 in 1939. Substantial increases in such expenses were estimated that the 1946 earnings will 1945 the sum total of working expenses amounted to $280,055,024.

"The statements on operating expenses were not in detail, and we are, therefore, unable to ascertain whether the Canadian Pacific took any advantage of its favorable revenue position to write off on a basis which would not be possible in more difficult times.

"Nevertheless, we do know that such is good business practice, and we are also aware of the company's reputation for efficient management and the maintenance of sound business practices.

"In cases of this kind, it has been the practice of the board to consider a company's overall financial position, rather than the financial position of a part only of an employer's undertaking. In this case regard must be had for a substantial item shown as "other income" in the company's financial statements. Such item is not included in the operating revenues above referred to.

"All concerned must realize that the unprecedented volume of traffic handled by steam railways during the years under review was attained in consequence of Canada's participation in World War II. It would be idle to assume that anything like that volume will be maintained in the subsequent years, at least for some time. The present trend supports such view."

Not Making Estimates—The board's observations continued thus: "Wartime Wages Control Order, 1943, does not impose upon us the task of estimating the future earnings of the companies concerned in this case. We need only consider the presently existing circumstances in and surrounding the case. In this connection we must take cognizance of the fact that Canadian National and Ontario Northland have agreed to adjust the wage rates of their employees to the same extent

(*Continued on page 696*)

Navy's Top Honors For R. R. Land Fleet

Forty roads get Certificates of of Achievement for hauling boys in blue

Declaring that "the war has shown that the railroads, under business management, are capable of meeting vital needs in a great emergency as they could have been met in no other way," Vice-Admiral Louis Denfield, chief of naval personnel and soon to be commander of the Pacific Fleet of the United States Navy, presented Certificates of Achievement to some 40 railroads and associated passenger water lines, represented by their presidents or other high-ranking officers at a dinner held in Chicago on October 18. Presentation of the certificates was made formally and in person in each case, and the addresses of Admiral Denfield and John J. Pelley, president of the Association of American Railroads, were broadcast over a national hookup of the Mutual Broadcasting System.

Admiral Denfield also presented individual Navy Certificates of Appreciation to the officers of the territorial passenger associations most intimately concerned with the handling of Navy passenger movement during the war and demobilization period. These officers were: H. W. Siddall, chairman, Interterritorial Military Committee and the Western Military Bureau; A. B. Chown, chairman, Trunk Line-Central Passenger Association; W. H. Clifford, secretary, New England Passenger Association; and M. B. Duggan, chairman, Southern Passenger Association. Mr. Siddall acted as toastmaster for the presentation ceremony.

The Citation—The certificate of Achievement is the highest award that the Bureau of Naval Personnel can confer upon an individual or organization not officially connected with the Navy. Those presented to the individual railroads and their presidents read as follows: "As president of the [Named Railroad] Company during the critical war years, Mr. [Blank]

High-ranking Navy officers lauded the railroads at Chicago dinner

Left to right—R. Warner, chairman, Naval Advisory Committee; Admiral L. Denfield; Vice-Admiral G. D. Murray; Rear-Admiral J. L. Holloway; Rear-Admiral (Ret.) J. Downes; H. W. Siddall, chairman, Interterritorial Military Committee; J. J. Pelley, president, A. A. R.; Capt. H. A. Yeager; and C. E. Johnston, chairman, Western Association of Railway Executives.

mustered the resources of his organization and, with complete disregard of the cost to himself in time and effort, contributed to the greatest man-power movement in our country's history. Through his unflagging endeavors and great wisdom, Mr. [Blank] was able to assist in the transportation of more than seven million Naval personnel to points within the United States. Approximately 25,000 persons a day taxed the facilities of American railroads as the Navy struggled to fulfill the commitments of world-wide warfare. Only the knowledge gained by long experience and his willingness to apply that wisdom unstintingly in the Navy's behalf could have enabled Mr. [Blank] to accomplish his share of this vital task. Again, with victory complete, Mr. [Blank] was called upon to tax the capacity of his organization in the demobilization period. From August 14, 1945, to August 31, 1946, while the Navy returned more than 3,000,000 men and women to civilian life, the travel of Navy personnel reached stupendous proportions. These people were able to return promptly to their homes, just as they had met their ships and taken their leaves, due to the untiring devotion, sure knowledge and great patriotism of Mr. [Blank] and his colleagues."

In his address Admiral Denfield went into considerable detail concerning the ingenuity of the railroads in using inadequate equipment to meet emergency situations.

"The illustrious record established during the war was equalled by the cooperation received during the demobilization period," he continued. "With victory complete attention was turned to bringing the fighting man back home. The railroads put at the disposal of the armed forces every piece of equipment that would roll, including every type ranging from the most modern to the older 'retired land fleet' variety. Riding in these cars couldn't always be classed as traveling in style, but the considered opinion of the travelers was that the journey home was a joy ride regardless of the age of the car. This was demonstrated by the following inscription found on the side of one of the Navy troop trains: 'This train hauled my grandfather home from the Civil War, my father from the last War, and now it's hauling me.—[signed] Kilroy'."

Demobilization Load—The Navy personnel chief went on to describe the even heavier loads—measured in traffic movement—laid on the roads by the demobilization program. Said he: "The shortage of equipment was only one of the obstacles which had to be overcome. In spite of a critical shortage of trained railroad men which was continuously depleted by the demands of the armed forces, the safety records were maintained, efficient and courteous service was rendered by rail representatives and established schedule requirements were met. As the first Christmas season after V-J Day approached, the ports of entry on the West coast were thronged with returning veterans in need of transportation. In order to clear these ports and in so doing fulfill the heartfelt desire of the veterans for a Christmas at home, the railroad facilities and personnel were taxed to a degree never before thought possible. Because of the urgency of the situation, the Navy released trained men from active duty to assist in the operation of the trains and the goal was accomplished."

Mr. Pelley, in his responding address, pointed out in particular that the success of the railroads in handling war-time traffic was due principally to the investment of $13 billion which they made in the 25 years between World War I and II. While it is their aim to keep themselves strong by continued investment in better plant, he said, "such investment depends upon securing a proper balance between railroad expenses and railroad earnings."

A list of the railroads receiving the award and the principals attending the function appeared in the *Railway Age* of October 12, page 613. All invited were present except Colonel J. Monroe Johnson, director of the Office of Defense Transportation, who was unable to leave Washington.

Tie Association 1947 Meeting

The 1947 annual convention of the Railway Tie Association will be held at the Arlington hotel, Hot Springs, Ark., September 23, 24 and 25.

Subsidy Recommended to Solve Paint Scarcity

In a recent meeting with the Civilian Production Administration, the Paint, Varnish and Lacquer Industry Advisory Committee recommended decontrol of linseed oil, flaxseed and paint prices to increase the quantity of paint available for the veterans' emergency housing program and other essential uses.

Opposing a proposal that house paints be added to a schedule by which materials are channeled into veterans' housing, the committee insisted that rated orders would further hamper distribution without increasing the availability of paint. They offered as a solution decontrol and a subsidy to make possible production of larger quantities of paint. Members of the committee stated that high-priced, scarce linseed oil is being diverted into products other than paint due to the higher return obtainable. They added that, at present, exterior paint is being produced at a loss to the manufacturer and merely for the accommodation of established customers. If this "token" supply were to be diverted elsewhere through rated orders, C. P. A. was told, the incentive to produce paint at a loss would be lacking and production would cease entirely.

Equipment Installed

Class I railroads installed 30,625 new freight cars in service in the first nine months of 1946, as compared to 30,590 in the corresponding 1945 period, according to the Association of American Railroads. This year's total includes 12,214 hopper, including 2,932 covered hopper; 4,259 gondola, 684 refrigerator, 119 flat, 2,003 automobile and 11,346 plain box freight cars.

The Class I roads also put 383 new locomotives in service in the first nine months of this year, of which 77 were steam and 306 were Diesel-electrics. New locomotives installed in the same period last year totalled 457, of which 62 were steam and 395 were Diesel-electrics.

Class I roads on October 1 had 61,419 new freight cars on order. On the same date last year, they had 38,315 on order. The former total included 15,450 hopper, including 2,154 covered hopper; 5,807 gondola, 1,199 flat, 21,490 plain box, 8,530 automobile, 8,343 refrigerator, 200 stock and 400 miscellaneous freight cars.

Locomotives on order October 1 totalled 555, compared with 535 on the same date in 1945. The former figure included 65 steam, six electric and 484 Diesel-electric locomotives, compared with 129 steam and 406 Diesel-electrics one year before.

R. I. Completes 16-Mile Relocation

The Chicago, Rock Island & Pacific announced on October 21 that it had completed a further 16-mile segment of its $12 million track-relocation program. This latest portion to be completed, which extends from Floris, Iowa, to Paris, was placed in regular service on October 22.

Part of a 100-mile relocation project on the "Golden State route" between Muscatine, Iowa, and Kansas City, Mo., the new line shortens the distance between those points by approximately 1½-miles. Grades do not exceed 0.5 per cent, and curves have been reduced to one degree or less, permitting passenger train speeds of 75 m.p.h.

I. C. to Honor Its Veterans

A plaque containing the names of 220 Illinois Central employees who died in World War II will be dedicated at ceremonies on November 5, in the waiting room of Central Station in Chicago. The event will be the road's final official act marking the participation of 10,000 of its personnel in the war. Present will be officers of city and state governments and representatives from all branches of military service.

New Haven Employees Get a Monthly Financial Report

In line with the New York, New Haven & Hartford's policy of keeping employees informed on their railroad's operating and financial conditions, the policy has been inaugurated of including in the employee magazine, "Along the Line," a brief summary of the latest statistics, so set up that increases or decreases in significant figures, as compared with the preceding year, are clearly indicated.

To emphasize the decline in revenues and profits that has occurred since 1945, the statement for the first eight months of this year carries all loss or deficit items in red ink. Following the actual figures, employees are told that "there are several reasons for the deficit; it is due mainly to decreased revenue resulting from loss of freight and passenger traffic volume since the end of the war—along with greatly in-

creased operation and maintenance costs (due principally to increased wages and resulting payroll taxes, as well as higher fuel and material costs). The need for additional revenue, through increased freight rates and passenger fares, is certainly apparent—particularly if our railroad is to continue its present basis of employment and avoid any sudden—and perhaps serious—curtailment of its projected post-war program."

Freight Car Loadings

Loadings of revenue freight for the week ended October 19 totaled 931,766 cars, the Association of American Railroads announced on October 24. This was an increase of 32,323 cars, or 3.6 per cent, above the preceding week, an increase of 157,959 cars, or 20.4 per cent, above the corresponding week last year, and an increase of 25,761 cars, or 2.8 per cent, above the comparable 1944 week.

Loading of revenue freight for the week ended October 12 totaled 899,443 cars, and the summary for that week as compiled by the Car Service Division, A. A. R., follows:

Revenue Freight Car Loading

For the Week Ended Saturday, October 12

District	1946	1945	1944
Eastern	174,113	132,842	164,630
Allegheny	190,757	147,980	191,254
Pocahontas	62,697	24,730	54,552
Southern	129,814	110,944	126,108
Northwestern	135,989	138,641	140,051
Central Western	143,849	140,259	146,059
Southwestern	62,224	59,164	76,066
Total Western Districts	342,062	338,064	362,176
Total All Roads	899,443	754,559	898,720
Commodities:			
Grain and grain products	49,735	53,828	49,997
Livestock	23,671	25,999	26,214
Coal	185,266	100,434	174,359
Coke	14,349	7,840	13,981
Forest products	86,374	35,721	42,997
Ore	60,361	63,478	66,737
Merchandise l.c.l.	130,296	113,707	109,233
Miscellaneous	389,391	353,552	415,202
October 12	899,443	754,559	898,722
October 5	906,848	768,040	877,035
September 28	916,483	832,509	912,627
September 21	899,053	837,293	897,883
September 14	907,169	856,101	891,486
Cumulative total, 41 weeks	32,224,888	33,536,698	34,521,820

In Canada.—Car loadings for the week ended October 12 totaled 85,178 cars as compared with 81,441 cars for the previous week and 69,666 cars for the corresponding week last year, according to the Dominion Bureau of Statistics.

	Revenue Cars Loaded	Total Cars Recd. from Connections
Totals for Canada:		
October 12, 1946	85,178	35,804
October 13, 1945	69,666	29,800
Cumulative totals for Canada:		
October 12, 1946	2,839,610	1,400,909
October 13, 1945	2,836,365	1,451,779

Mayor Kelly Wants Chicago Terminal Clean-Up

In an address before the Western Railway Club in Chicago October 21, E. J. Kelly, mayor of Chicago, asked for positive action in the solution of the city's railroad terminal problem. Asserting that, like Topsy, "Chicago's railroads just grew", he declared that the committee of railroad presidents working on plans for new terminals had made substantial progress during its existence of almost a year and a half.

John W. Barriger III, president of the Chicago, Indianapolis & Louisville, introduced Mayor Kelly to the club, stating that "railways and Chicago are like Siamese twins, for the strength of each is in the other". He pointed out that the first mayor of Chicago was also a railroad president.

C. & N. W. Fireman Wins Special Pass by Heroism

For his heroic action in saving the life of a three-year-old boy, William C. Day, a fireman on the Chicago & North Western, was presented a white annual pass by L. L. White, vice president (operations) on October 21. The pass, of the highest rank issued by the railroad, bears the gold lettering "For Meritorious Service." It was presented in recognition of Day's action a few weeks earlier in pulling a youngster from the path of a passenger train at Elburn, Ill.

The child was standing on the railroad crossing, so engrossed in watching Day's train back over the crossing that he failed to notice an approaching passenger train. Day jumped from the locomotive and raced back to the crossing, pulling the child to safety by a matter of inches.

R. F. & P. Engineer Nominated A. S. C. E. Chief

Edgar M. Hastings, chief engineer of the Richmond, Fredericksburg & Potomac, with headquarters at Richmond, Va., was nominated for the presidency of the American Society of Civil Engineers for 1947 at a quarterly meeting of the society's board of directors held in Kansas City, Mo., on October 14. Mr. Hastings, who has been an active member of the society since 1910, especially in connection with the work of the organization in engineering colleges and universities, has been chief engineer of the R. F. & P. since 1922. He is a past director and past president of the American Railway Engineering Association.

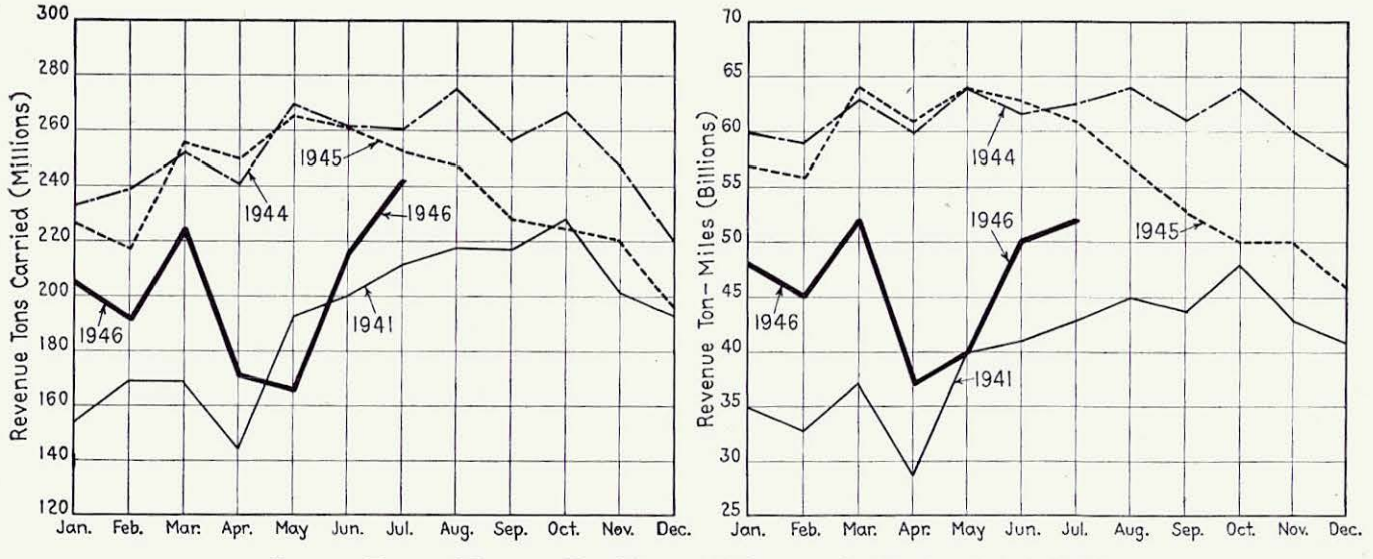
C. & N. W. Streamliner Plans for Next Year

Conditioned upon the delivery of equipment already on order, the Chicago & North Western will place into effect the following new trains during 1947, according to Carl R. Gray, Jr., vice-president (public relations), in an address before the Community Club of Windom, Minn., on October 21:

(1) A fast daytime streamliner between Chicago and Omaha, Neb., operating on a schedule comparable to that of the fastest West Coast streamliners now in service between those two points.

(2). A streamliner between Chicago, Rochester, Mankato and other southern Minnesota points operating via Madison on a fast daytime schedule.

(3) Extension of "400" streamliner service on a year-'round schedule from Chicago to Ashland, Wis., and Watersmeet, Mich., through the heart of Wisconsin's North Woods resort area, on a daytime schedule faster than that of the existing "Flambeau."



Revenue Tons and Revenue Ton-Miles—1946 Compared with 1941, 1944 and 1945

(4) A new daytime streamliner which will operate from Sioux City, Ia., to connect with the Omaha-Chicago streamliner, thus providing fast streamliner service between Sioux City and Chicago.

Mr. Gray also announced that, sometime in 1947, the "Nightingale" and the "North American," operating between Minneapolis-St. Paul, Minn., and Omaha, will go on new fast schedules with 4,000-hp. Diesel-electric locomotives.

I. C. C. Gets Railroad Ex-Parte 162 Brief

(*Continued from page 691*)

less than half the amount which it should be in order to restore sound economic conditions in the railroad industry."

The brief explained that these 1947 estimates include an assumption, among others, that there will be no "depression or serious economic disturbance" next year. It went on to say, however, that the possibility of such an adverse turn of events "cannot be overlooked by prudent and reasonable men." This theme was further developed as follows:

"If railroad rates are maintained during a period of high traffic on a level which is insufficient to produce reasonable earnings even with heavy traffic, and a sharp decline in the volume of traffic takes place, the consequences must be disastrous.

"Only two alternatives would be presented. Either freight rates would have to be increased by a huge amount at a time when the economy of the country is least able to stand such an increase, or the railroads would face ruination. Both of these alternatives must be guarded against. The only safeguard is to place freight rates on a level which will produce ample earnings during periods of high traffic. This has the effect of softening the blow to shippers when traffic declines, and of providing funds to tide the railroads over lean years."

The Safe Course—In pleading for a liberal commission approach to its decision, the brief cited the late Commissioner Eastman's concurring opinion in Ex Parte 74, Increased Rates, 1920, which "pointed out that the safe course was to err on the side of liberality rather than on the side of niggardliness in fixing a rate level under circumstances much like those with which we are now confronted." Counsel for the National Industrial Traffic League "expressed the same view in his oral argument in this proceeding," the brief continued. It added that these views are "sound and wise," and went on to suggest that if the rates authorized should prove to be "somewhat higher than absolutely necessary" a downward adjustment could be made "without jeopardizing the economy of the country."

Motor Vehicle Study Would Aim to Erase State "Barriers"

A study of the motor vehicle size and weight question is being conducted by the Committee on Economics of Motor Vehicle Size and Weight of the Highway Research Board, a division of the National Research Council, National Academy of Sciences, Washington, D. C. The committee, headed by H. S. Fairbank, deputy commissioner, Public Roads Administration, is expected to report on its findings when the highway Research Board convenes in Washington on December 5.

According to a committee spokesman, the survey will embrace a study of the economy of transportation in vehicles of various sizes and weights with respect to the costs of vehicle operation and highway system expenditures. He said that the committee's conclusions, to be presented to the Association of State Highway Officials, will be directed toward providing greater uniformity among states and relieving manufacturers of building units to meet various state requirements.

In addition to Mr. Fairbank, the committee includes, among others, Warner Tufts, formerly with the Interstate Commerce Commission, and now employed by the American Trucking Associations as a special consultant and analyst; Dr. C. S. Morgan of the I. C. C.; Fred B. Farrell, F. J. Meyers, C. F. Rogers and Raymond Archibald, all of P. R. A., and D. E. Brisbine, research chief, National Highway Users Conference.

Kendall Emphasizes Bad Car Situation

(*Continued from page 691*)

tory, but including the Chicago switching district, will be permitted when consigned to any one destination with a minimum of 7½ tons per car." These relaxations are embodied in General Permits ODT 1, Revised-10 and Revised-11.

Mr. Kendall said that the railroads believe the permits, together with "intensified efforts" the carriers are "pledged to make" will result in "a definite though necessarily gradual improvement in the present unsatisfactory situation." He added that "it is to be fully understood that there will be no relaxation by the railroads in their program calculated to obtain the maximum practical utilization of equipment used in l.c.l. service, but freedom from specific restrictions on the loading of individual cars, particularly in the predominantly west and southbound directions, will greatly aid in the scheduling of cars so as to by-pass congested transfers and reach distant destinations with minimum rehandling."

Supply vs. Statistics—Later on, the C. S. D. chairman indicated that heavy l.c.l. loading may look good in the statistical records while it has an adverse effect on car supply. "It is granted," he said, "that the heavier average loading per car of l.c.l. freight this year can be statistically shown to have saved the loading of many cars. Nevertheless, it is the studied opinion of those best versed in the handling of l.c.l. freight that there is a substantial net loss in car days employed when the heavier loaded cars are handled through transfers. While no one remedy of practical application will alleviate present unsatisfactory conditions entirely, it is believed that an intensified effort by the railroads, with the cooperation of their heavy l.c.l. shippers, favored by the relaxed provisions of General Order ODT-1, Revised, will accomplish a sustained improvement."

As to the volume of l.c.l. loadings, Mr. Kendall reported that they are continuing to average about 15 per cent in excess of last year, although the August tonnage was up 24.4 per cent. With respect to embargoes, he said that they would be placed "as a necessary measure against local points where serious congestion exists"; but general or area embargoes "are considered inadvisable because of the adverse effect upon railroads and their patrons at many points that would be involved where operations are reasonably current."

Reporting on box-car supply for carload business, Mr. Kendall referred again to the martime strike and to the New York truckers' strike which "have seriously affected rail transportation, not only in Eastern territory where many loaded freight cars are tied up, but have also adversely affected the empty box car flow and materially increased the intensity of the box car distribution problem." The resultant distortion of the normal heavy eastbound flow of box-car traffic and the shrinkage of empty car releases produced such "severe deficiencies" throughout Eastern territory that it recently became necessary to suspend, for a brief period, the deliveries of empty box cars by eastern roads to their western connections under C. S. D. orders. However, these quota orders continue in effect; for the "earlier promises for the greatest volume of crop production in history are being realized as the 1946 growing season nears an end."

Livestock Flood—With respect to stock cars, Mr. Kendall reported that demands for them have "increased tremendously" since the lifting of Office of Price Administration controls on meat prices. And this development came on top of already-heavy demands for the normal seasonal range movement of livestock and for the government's export program. Livestock loadings for the week ended October 5 totaled 25,392 cars—a "severe drain" on the available supply of 50,579 serviceable stock cars. "In recognition of the emergency of the situation and in order to make available every possible unit of stock car equipment, roads have been instructed to withdraw these cars from any loading other than livestock," Mr. Kendall said.

He made only a brief reference to automobile cars, noting that there have been further interruptions in the flow of necessary parts to automobile manufacturers with the result that "current predictions do not lend much encouragement as to reaching full-scale production during this calendar year." Meanwhile, as indicated above, "there has been no decrease in coal production during recent weeks," and the 3,076,511 cars loaded during the 17 weeks ended October 5 represent "the best summer season loading back to 1926" when there was a coal strike in Great Britain, and when the average carload of coal was about four tons lighter than presently obtained.

Not Enough Hoppers—Other commodities requiring hopper cars also show a heavy increase in volume as compared with last year, and Mr. Kendall said that such demands can be expected to continue through mid-November when the ore movements from the Great Lakes drop off due to the close of the navigation season and road-building operations in the north-

ern areas of the country are largely suspended on account of winter weather. "For the present, however," he continued, "there are simply not enough hoppers and drop bottom gondolas to take care of . . . requirements, and the railroads bespeak the continued cooperation of shippers and receivers in loading and unloading these cars as promptly as possible; within 24 hours of arrival if at all possible."

Requirements for flat cars "are now heavier than they were at this time last year when the volume movements of military impedimenta were being handled back from the war zones through our ports." For covered hopper cars "brisk demands continue, particularly to supply materials urgently needed on the heavy construction programs." In the latter connection Mr. Kendall went on to say that the railroads have added nearly 3,000 covered hoppers to their total ownership since January 1, an increase of 30 per cent in cars of that type.

Refrigerator car loadings "continue heavy, but for the past month they have been somewhat lighter than last year mainly on account of the general decreased potato loading due to surplus production and market conditions." Except for a "tight situation" in the Pacific Northwest, during the latter part of the month, all reefer orders were protected currently during September, the report said.

The latest figures on turn-around time of all freight cars show that in September it was 13.47 days as compared with 13.2 days in August and 13.9 days in July. The September range was from 11.67 days for hopper cars to 25.08 days for refrigerator cars. September detention reports indicated that 17.01 per cent of the cars placed during that month were detained for a longer period than the 48 hours free time. This compares with 16.47 per cent for August and 16.43 per cent for September, 1945. The percentage of detention for this year's first nine months was 18.16 compared with 15.7 for the same period of last year.

* * *

Poster No. 277, constituting the October, 1946 installment of the "All the Year—Every Year Safety Program" now being distributed by the Committee on Education, Safety Section A. A. R.

September Operating Revenues 3.7 Per Cent under 1945

From preliminary reports of 86 Class I railroads representing 81.3 per cent of operating revenues, the Association of American Railroads has estimated that the September gross amounted to $531,793,620, a decrease of 3.7 per cent below the $552,439,781 reported for the same 1945 month. Estimated September freight revenues were $414,450,719, compared with $395,857,371, an increase of 4.7 per cent, while estimated passenger revenues were $78,481,631, compared with $114,714,991, a decrease of 31.6 per cent.

Nine-Months Ton-Miles

The volume of feight traffic handled by Class I railroads in the first nine months of 1946 was approximately 19.4 per cent under 1945 and about 22.5 per cent less than in the corresponding period in 1944, according to a preliminary estimate by the Association of American Railroads. Freight traffic in the first nine months of 1946 totaled approximately 431 billion ton-miles, compared with 535 billion ton-miles in the same period last year.

	1946	1945	Per cent decrease
First 7 months	324,285,888,000	425,374,735,000	23.8
August[a]	55,000,000,000	56,800,000,000	3.2
September[b]	52,000,000,000	56,600,000,000	1.1
Total 9 months	431,300,000,000	534,800,000,000	19.4

[a] Revised estimate.
[b] Preliminary estimate.

September traffic amounted to about 52 billion ton-miles, a decrease of one per cent compared with September, 1945. The amount of traffic handled by the Class I roads in September this year, however, was 56 per cent greater than the volume carried in September, 1939.

The table summarizes revenue ton-mile statistics for the first nine months of 1946 and 1945.

Orders Canadian R. Rs. To Increase Wages

(*Continued from page 692*)

as requested in this case. We must also take into account the long established practice of maintaining parity in wage rates for employees of all major Canadian railroads. Finally, we hold that the companies, respondents in this case, are able financially to pay the increased rates for the time being at any rate."

Landis Sees Airline Expenses Slowing Rate Cuts

With its costs "far from stabilized" and presently on a "fairly high" level, the air transport industry's big rate issue of the moment is to maintain fares at current levels "rather than to dream of a precipitous decline," according to James M. Landis, chairman of the Civil Aeronautics Board. Mr. Landis made this statement in the course of his recent address at the National Aviation Clinic at Oklahoma City, Okla.

He noted that domestic air passenger fares have decreased from an average of 5.5 cents per mile for the year ending with June, 1941, to 4.44 cents for the year ending with June, 1946—"mostly as a result of competition and to some small extent as a result of direct board action." He went on to make the foregoing forecast as to the outlook for the immediate future, saying that the lack of stabilization in air carrier costs is due to the need for new equipment and the rapid obsolescence of equipment.

In predicting that "additional costs in the form of taxes can be anticipated," the C. A. B. chairman asserted that if such increased taxes "turn upon the industry in the hope of substantial revenue from it, a real threat to the economic health of the industry can be realized." Before sounding that warning of the air carriers' sensitiveness to increased taxes on themselves, Mr. Landis had indicated that the general taxpayer can expect to be called upon to increase his subsidy to air transportation by paying part of the costs of the so-called "feeder line" services proposed in applications pending before the board.

"The board," the chairman said, "must have some regard to the economics of operation in the feeder services. The certification of 30,000 miles of route miles to feeder applicants, which I assure you is a very small fraction of what is being requested, would at a very conservative estimate add about $3,000,000 a year exclusive of the cost of navigation aids and airports to the taxpayers' bill for aviation. And costs such as these are likely to continue for several years until the time comes, which we believe will come, when a new form of transportation shall have become accepted as part of the fabric of our national life."

Meanwhile, Mr. Landis denied that the mail pay any longer constitutes a subsidy to the air carriers. "It is interesting to note," he explained, "that mail pay for all domestic air carriers is only 1.2 cents per piece of mail, only a fraction of the currently effective five-cent mail postage. It is worth noting in this connection that certain misconceptions are current regarding the nature of mail pay and mail rates. They are frequently spoken of as subsidies. This is true only in a very limited and very specialized sense. For the government through its mail payments to air carriers, pays out far less than the public pays to the government for carrying that mail. Instead of air mail being subsidized, the profits from air mail serve to cut deficits in other necessary but unprofitable postal ventures. It is true that some carriers get more mail pay than the reasonable cost of carrying that mail, but the air mail as a whole has become both a happy and a profitable public venture."

Giving the airlines a bit of advice, Mr. Landis warned that their service should be better if they are to hold their business. "You cannot," he said, "propel the air public from the luxury of pre-war service to the casualness and sloppiness of much of our post-war service and expect to retain the gratitude of the public." He also suggested that perhaps more business could be developed by the establishment of a "Pullman-coach type of service" when more equipment becomes available.

Speakers at Protective Section Meeting—a Correction

Assistant United States Attorney General T. L. Caudle was incorrectly identified as an assistant United States attorney in the article "The Importance of Railway Police," appearing on page 651 of *Railway Age* of October 19. In the same article Inspector L. A. Hince of the Federal Bureau of Investigation was inaccurately referred to as L. A. Hintz. The article reported the proceedings of the annual meeting of the Protective Section of the Association of American Railroads.

Union Pacific to Begin New Baggage-Handling Plan

The transfer of personal luggage direct from the passenger's seat to the station taxi stand is the plan of the Union Pacific to be made available soon on the road's two streamliners—"City of Los Angeles" and "City of Portland". According to the plan, on the morning of arrival at destination, porters will tag the baggage of persons desiring the service. After passengers have left the coaches, the baggage will be picked up from the seats by red caps and delivered to the taxi stands. Passengers will then present claim checks at the stands and receive their luggage.

Mechanical Division to Meet at Atlantic City

Formal announcement has just been made that, after a lapse of 10 years, the A. A. R. Mechanical Division will again hold an annual meeting in the Convention Hall at Atlantic City, N. J. The dates selected are June 23 to 28, 1947, inclusive. The meeting will be held in connection with exhibits of railway equipment and appliances by the Railway Supply Manufacturers' Association.

The reports of committees investigating locomotive matters will be received and discussed during the first two or three days of the meeting and the reports of the committees investigating car matters will be received and discussed during the second half of the meeting.

Traffic Association Elects Officers

At a meeting of the Metropolitan Traffic Association of New York, held October 10 in the Grand Ballroom of the Hotel Pennsylvania the following were elected to office:

J. J. Lenahan, Canadian Pacific, president; S. P. Bartoletta, North Braddock Motor Lines, first vice-president; R. A. Henderson, Socony Vacuum Co., second vice president; J. J. Donnelly, New York Ontario & Western, secretary; V. P. Golden, Union Bag & Paper Co., treasurer; and W. H. Croissant, Jr., Ethel Specialties, financial secretary.

J. S. Pyeatt Dies at 72

John Samuel Pyeatt, president of the Denver & Rio Grande Western since 1924, and chairman of the board of directors of the Missouri-Pacific from 1938 to 1945, died on October 20 at New Orleans, La., at the age of 72. Mr. Pyeatt was made president of the Gulf Coast Lines in 1916 when he was 42, and during federal control headed up a number of the trunk lines in Texas.

Carmen Elect New Officers

Irvin Barney, assistant president of the Brotherhood Railway Carmen of America, was elected president at the organization's 19th international convention, held recently in Chicago. Mr. Barney succeeds Felix H. Knight, who has retired. J. T. Powell, of Louisville, Ky., was elected a vice-president, succeeding Fred N. Aten, who has also retired. Other vice-presidents were re-elected.

Club Meetings

The Montreal branch of the Engineering Institute of Canada has scheduled a meeting for October 31 in Montreal, at which John I. Yellot will speak on "Coal-Burning Gas Turbines for Locomotives."

A meeting of the Northwest Car Men's Association will be held on November 4 at 8 p. m., at the Midway Club, St. Paul, Minn. A paper on hot boxes will be presented by H. R. Longhurst, assistant supervisor of equipment, Soo Line.

The Indianapolis Car Inspection Association will meet on November 4 at 7 p. m. in the committee room, Indianapolis Union Station. No special program has been planned.

A meeting of the Central Railway Club of Buffalo has been scheduled for November 7 at the Hotel Statler, Buffalo, N. Y., at 8 p. m. R. H. Short, supervisor of safety, N. C. & St. L., will be the guest speaker.

The Eastern Car Foremen's Association will meet November 8 at the Engineering Societies building, New York City, at 8 p. m. A paper on the "D-22 Passenger Brake" will be presented by R. P. Ives of the Westinghouse Air Brake Co.

A Greater Philadelphia Traffic Conference, sponsored by the Traffic Club of Philadelphia in cooperation with many other groups, will be held November 12, 6:30 p. m. in the ballroom of the Benjamin Franklin hotel, Philadelphia. Several speakers are scheduled to talk on traffic matters.

The New England Railroad Club will meet at the Hotel Vendome, Boston, Mass., at 6:30 p. m. on November 12. E. M. Hastings, chief engineer of the R. F. & P., will present a paper entitled "Are the Railroads Meeting the Challenge?"

A meeting of the Car Foremen's Association of Omaha has been scheduled for November 14 at 6:30 p. m. at the Railroad Y. M. C. A., Council Bluffs, Iowa.

The American Railway Magazine Editors Association will hold its first full-scale meeting since 1942, on November 14-15, at the Edgewater Gulf hotel, near Biloxi, Miss.

The twenty-third annual session of the Communications Section of the Operating-Transportation division of A. A. R., will be held at the Hotel Statler, Detroit, November 19, 20 and 21. The session will convene at 10 a. m. on the first day and several papers are scheduled in addition to the committee reports.

The 38th annual dinner of the Railway Business Association will be held at the Waldorf-Astoria hotel, New York, November 21. The members of the association will have as their guests the presidents and other executives of all the principal railway systems.

The Southern and Southwestern Railway Club will meet in the Ansley Hotel Roof Garden, Atlanta, Ga., at 10:00 a. m., November 21. Among the speakers will be A. H. Candee, consulting transportation engineer, Westinghouse Electric Corp., and Maj. Gen. Carl R. Gray, Jr., vice-president, C. & N. W.

Charles F. Kettering, vice-president, General Motors Corp., will speak at a meeting of the Western Railway Club to be held at the Hotel Sherman, Chicago, November 25, at 6 p. m.

To Restore Chicago-Florida Winter Trains

The "Dixieland," "Sunchaser" and "Florida Arrow," through one-night-out pre-war trains between Chicago and Florida, will resume operation about December 12, it is announced by the Florida East Coast. Supplementing the present coach streamliners, and alternating every third day over their respective routes, this will give the East coast of Florida two through trains daily from mid-western territory.

The "Dixieland," like the "Dixie Flagler," will be operated by the Chicago & Eastern Illinois; Louisville & Nashville; Nashville, Chattanooga & St. Louis; Central of Georgia; and Atlantic Coast Line, passing through Evansville, Ind., Nashville, Tenn., Chattanooga and Atlanta, Ga. The "Sunchaser" will run over the Illinois Central from Chicago to Birmingham, Ala., thence Central of Georgia and Atlantic Coast Line, also the route of the "City of Miami" and "Seminole." The "Florida Arrow" is to be operated by the Pennsylvania from Chicago to Louisville, Ky., thence Louisville & Nashville through Birmingham to Montgomery, Ala., and Atlantic Coast Line to Jacksonville, also route of the "South Wind."

Equipment of the trains will consist of through Pullmans and coaches between Chicago and Miami. They will leave Chicago in the morning, arriving at Miami the next evening.

A list of Current Publications appears on page 709.

With the Government Agencies

I.C.C. Widens Scope of Truck Haul Probe

Class I, II and III carriers all included in pick-up and delivery case

The Interstate Commerce Commission this week issued a supplemental order in No. MC-C-542, making class II and Class III motor carriers respondents, along with the previously-included Class I truckers, in the investigation into the reasonableness and lawfulness of the rules, regulations and practices of motor carriers governing or affecting pick-up and delivery services on less-than-truckload freight and freight moving at "any-quantity" rates.

At the same time, the commission made public a report by Commissioner Rogers on the recent prehearing conference in the same proceeding, and in No. 29555 (pick-up and delivery services by railroads). According to the report, it was generally agreed that the issues in the proceedings embrace: (1) Where and under what circumstances is pick-up and delivery service rendered by the respondent motor carriers and railroads; (2) where and under what circumstances should the carriers perform the service; (3) where and under what circumstances should the shipper have the right to perform his own pick-up and delivery service in connection with shipments by motor carrier, receiving an allowance in lieu of pick-up and delivery by the carrier; (4) what compensation is received by the respondents for the service and what benefits are derived by them from according that service without compensation in addition to the line-haul charges; (5) what is the cost to the respondents of rendering the service; and (6) what and whose facilities are used in performing the service.

"It would also appear," the report said, "that a further pertinent issue would be, when, if at all, and to what extent, and in what amount, should pick-up and delivery service be covered by a charge separate from the line-haul rate."

With respect to the nature of the traffic and cost data which the report said should be presented by the respondents in exhibit form, the railroads, motor carriers and shippers each appointed committees to confer with commission representatives. The report also noted that the time and place of the hearings will be determined and announced upon the completion of the conferences between the committees and the commission and when it is known, approximately how long it will take the parties to prepare for the hearings.

Ruling on Land Grant Rates

Government contentions that the shipments in question were not for "civil" use, but were for delivery to the government of China and for "military" use were unanimously upheld by the United States Court of Claims in a recent opinion involving an interpretation of the former land-grant-rate law.

The case was brought by the Southern Pacific Company to recover $61,314, the difference between the commercial rate and the land grant rate on shipments of motor trucks, parts and tools, consigned under the Lend-Lease Act to China Defense Supplies, Inc., acting on the behalf of the Republic of China. The materials were shipped from Detroit, Mich., Pontiac, and Tarrytown, N. Y., and were for use of the Chinese army.

"The United States Government, acting in its sovereign capacity, chose the method it would pursue in the defense of the country, and that defense was inherently military in its nature, in the fact of an aggressive, potential enemy," the court said. "It matters not that it was defense as distinguished from offense. Furnishing of military equipment for the use of the Chinese army, under the Lend-Lease program, was a sovereign act based on military considerations, and if the same object, the defense of the country, could be obtained by supplying the Chinese army with military equipment as by supplying it to the army at home, there is no distinction to be made in the nature of the transportation under the land-grant acts."

O. D. T. Amends Order Limiting Lakes Grain Shipments

In order to meet what is termed "specific needs" or "exceptional circumstances" and to prevent "undue public hardship," the Office of Defense Transportation on October 17 amended its General Order ODT 67 to provide for the issuance of general or special permits. As noted in *Railway Age*, October 19, page 658, the order prohibited the movement of Great Lakes grain shipments in American vessels from points outside the United States.

According to the O. D. T., applications for special permits should be made directly to the director or assistant director, Waterways Transport Department, O. D. T., 1800 Terminal Tower, Cleveland 13, Ohio.

I. C. C. Amends New Commodity Statistics Order

The Interstate Commerce Commission has made public an October 16 order wherein its Division 1 amended the recent order which will revise commission requirements for the reporting of freight commodity statistics, effective January 1, 1947. The principal features of the revision were outlined in the *Railway Age* of October 12, page 614.

The amendment embodied in the October 16 order substitutes new reporting classes 563 to 581, inclusive, for those set out in the original order. Those classes, in the Manufactures and Miscellaneous group, relate to such traffic as lead and zinc, magnesium, steel and other metal alloys, pig iron, and certain iron and steel products.

Lets Greyhound Keep Florida Motor Lines

I. C. C. gives big bus operator what Dissenter Splawn calls "blank check"

With dissenting commissioners complaining that the majority seemed to be giving the Greyhound Corporation a "blank check" to acquire "any operation which it wants," the Interstate Commerce Commission has affirmed its Division 4's prior report approving the acquisition by Greyhound of control of Florida Motor Lines Corporation by exchange of stock. The prior report was issued in November, 1945, and the transaction was consummated the following month; but the commission last March reopened the proceeding (No. MC-F-2436) for the further hearing and oral argument out of which the present report has come.

The acquisition was accomplished by the exchange of 1¾ shares of Greyhound common stock for each share of Florida common, "a majority of which was owned by individuals affiliated with Stone & Webster, Inc., of Boston, Mass." Thus the present report also affirms Division 4's other finding which authorized Greyhound to issue 239,127 additional shares of common for use in the exchange. Evidence reviewed by the commission indicated that Florida, with its 2,786 route miles and 140 buses, was the largest operator in the state, and that it had close interchange arrangements with Greyhound lines.

Wants One Company Eliminated—One "important result" of the transaction, however, did not appeal to the commission majority. That is the set-up wherein control of Pan American Greyhound Lines, Inc., which operates New York-Miami services, has become lodged in three Greyhound companies — Atlantic Greyhound Lines, Pennsylvania Greyhound Lines, and Florida Motor.

"We have," the report said, "repeatedly condemned proposals whereby control would be acquired by separate operating companies rendering substantially the same service, and which, except for the common control, would be competitive. This record provides no sound reason for the continued existence of Pan American as an operating entity, controlled by three companies in the Greyhound system, and our approval of the control of Florida Motor by Greyhound is not to be taken as approval of the continued existence of Pan American which provides Greyhound with an additional solicitation medium to be faced by Greyhound's competitors. Greyhound should take the necessary steps to effect a unification of Pan American's operating rights and properties into the Greyhound system. In the event such steps are not taken and an appropriate application filed with us within 90 days from the date of this order

[October 7], consideration will be given to reopening of the proceeding in No. MC-F-1727, *Pan American Greyhound Lines, Inc. —Control and Merger*, 38 M. C. C. 433, for such further action as we may deem necessary in the premises."

The dissenting expression was written by Commissioner Splawn, who was joined in it by Commissioners Lee and Patterson. Chairman Barnard and Commissioner Aitchison did not participate in the disposition of the proceeding. Mr. Splawn could see no prospective benefits to the public as a result of the transaction. He asserted that both companies were competently managed, and noted the close interchange arrangements which Greyhound said would continue much as before.

"The competence of the management of both parties to this transaction is self evident," he said, "and the very size of each company negatives to a large extent their claims of improvements which will flow from the acquisition, especially as the separate corporate identity of Florida Motor Lines will be maintained. It would seem that approval of the transaction, which rests upon so-called 'substantial advantages to be derived' is couched in such broad general terms as to amount to a blank check to Greyhound to acquire any operation which it wants."

Splawn Sees a Monopoly—Later on the dissenting commissioner suggested that the commission should exercise its "broad" authority to approve transactions which eliminate competition "only in those cases where the facts show substantial compensating public benefits will result." The majority report, he added, "grants an important immunity to Greyhound in this transaction and, in effect, sanctions a practical monopoly in the immediate territory involved, and fosters a monopolistic trend in motor bus transportation nationally. No other passenger transportation agency under single control—either rail, bus, water, or air, or any combination thereof—reaches the major sections of the nation with its own facilities, as does Greyhound."

A footnote in the dissenting opinion listed various proceedings in which "numerous bus companies" have been acquired by Greyhound since December 31, 1944, pursuant to commission authorizations. Also it listed various other proceedings in which Greyhound was seeking authority to acquire control of additional companies. Favorable reports in three of the latter cases came along about the same time as the decision about which Commissioner Splawn was complaining.

In No. MC-F-2944, Division 4's report on reconsideration has authorized Greyhound to acquire control of the Cincinnati & Lake Erie Transportation Company through exchange of capital stock. The report also approved the issuance by Greyhound of 12,000 shares of 4½ per cent cumulative preferred stock and 25,000 shares of common stock in exchange for 27,365 shares of C. & L. E. stock.

C. & L. E. operates about 530 route miles in Ohio. This is the case wherein Division 4's prior report dismissed for lack of jurisdiction Greyhound's original application for authority to purchase an additional block of C. & L. E. voting trust certificates which would have raised its holdings to 30.57 per cent of the total. In dismissing the application, the division agreed with the applicant's contention that the Interstate Commerce Act's acquisition-of-control provisions (section 3) did not apply, since the transaction would not "necessarily" result in acquisition of control. This majority finding drew a dissent from Commissioner Mahaffie who protested against his colleagues' condonation of what he called the "process of infiltration" whereby Greyhound was increasing its interest in C. & L. E., and suggested that the commission give consideration to recommending legislation calculated to check the process (see *Railway Age* of November 3, 1945, page 729).

Other Acquisitions Approved—After the commission had reopened the case for rehearing before Division 4, Greyhound amended its application and sought authority to acquire control of C. & L. E. through the acquisition of 27,365 shares. It is this amended application which is now approved in a unanimous report by the division of which Commissioner Mahaffie is still a member.

In No. MC-F-2571, Division 4 has approved the acquisition by Greyhound of direct control of the West Ridge Transportation Company through purchase of its outstanding capital stock and indirect control of the Buffalo & Erie Coach Corporation through such purchase. The West Ridge and Buffalo operations are generally in central and western New York and Pennsylvania, including routes between Buffalo, N. Y., and Pittsburgh, Pa., Jamestown, N. Y., and Oil City, Pa., Buffalo and New Castle, Pa., Erie, Pa., and Ashtabula, Ohio, and Buffalo and Erie.

In approving this transaction, the division cited the commission's decision in the Florida Motor case, noted above. "In its [Florida Motor] report," the division said, "the commission considered at length the expansion of the Greyhound system into an area not now served by it, and found that the resulting reduction in competition in the motor bus field would be offset by compensating advantages to the traveling public and would be otherwise consistent with the public interest. The record in the instant proceeding warrants the same conclusion."

The third recent Division 4 decision in one of the Greyhound cases, which Commissioner Splawn's Florida-Motor dissent listed as pending, involved the purchase by Northland Greyhound Lines of the Chicago-Milwaukee operating rights of Interstate Transit Lines, doing business as Overland Greyhound Lines. In that proceeding (No. MC-F-3067), Greyhound was a joint applicant, seeking authority to acquire control of the rights, since it controls Northland in which the Great Northern has an interest, and it owns one-third of Interstate's stock, the remainder being owned by the Union Pacific and Chicago & North Western.

The division approved the purchase for the nominal price of $1 and authorized the acquisition of control by Greyhound. The report explained that Northland has been operating part of its Chicago-Milwaukee service over the route since August, 1942, under coordinating arrangements entered with Interstate pursuant to an Office of Defense Transportation conservation order. It added that the nominal consideration resulted from Interstate's "desire to dispose of this 'stub-end' portion of its operations which, before their suspension, were conducted at a substantial loss."

Consummation of the transaction will give Northland "exclusive motor carrier operating authority between Milwaukee and Chicago," the report noted. It added, however, that "competition would not be unduly restrained as there are two railroads and an interurban electric line operating a total of approximately 37 trains daily between said points at schedules averaging approximately one hour faster than bus schedules."

Meanwhile, in another recent decision, Greyhound got a set-back. Reporting in No. MC-F-2583, the entire commission has found that Greyhound and several of its officers and other individuals have "participated in effectuation of control and management in a common interest of the Southern Limited, Inc., with the Greyhound Corporation and carriers controlled by it in violation of the provisions of section 5(4) of the act. . . ." The accompanying order requires the respondents to "cease and desist" from further violations. The transactions condemned by the report were initiated during the pendency of *Illinois Greyhound Lines, Inc. — Purchase — Southern Ltd.*, 38 M. C. C. 641, wherein the commission in November, 1942, denied Illinois Greyhound's application for authority under section 5 to purchase the operating rights and property of Southern.

Representation of Employees

The right to represent locomotive firemen, hostlers and hostler helpers employed by the Long Island was retained by the Brotherhood of Locomotive Firemen and Enginemen as a result of a recent election which has been certified by the National Mediation Board. The election resulted in a 150-150 tie between the B. of L. F. & E. and the Brotherhood of Locomotive Engineers.

The N. M. B.'s report on it noted that during the counting of the ballots, the latter union challenged the right of two employees to vote because "they were presently 'in institutions suffering from mental conditions which are of a nature that would prohibit them from being personally able to properly execute ballots.'" Meanwhile Lawrence Farmer, mediator, had ruled that one mail ballot returned by an employee did not contain sufficient evidence on the mailing envelope to determine its validity. All three ballots were mailed ballots and were impounded by Mr. Farmer.

According to the N. M. B., the B. of L. F. & E. served a notice of appeal because Mr. Farmer did not open and count the three ballots. Upon receipt of the appeal, the N. M. B. held a hearing, on the basis of which it held that "there is no evidence which would justify the disqualification of two employees confined to state institutions" and that "the handwriting on the mailing envelope used by the third employee clearly identified his ballot as valid." After inviting the unions to have observers present, the three ballots were opened and counted by the board

Selected Income and Balance-Sheet Items of Class I Steam Railways

Compiled from 128 reports (Form IBS) representing 132 steam railways
(Switching and Terminal Companies Not Included)

All Class I Railways

Income Items	For the month of July 1946	For the month of July 1945	For the seven months of 1946	For the seven months of 1945
1. Net railway operating income	$62,806,406	$98,775,651	$215,794,089	$647,335,511
2. Other income	14,950,754	14,889,900	102,769,273	110,088,487
3. Total income	77,757,160	113,665,551	318,563,362	757,423,998
4. Miscellaneous deductions from income	3,000,917	2,638,188	16,496,198	18,063,028
5. Income available for fixed charges	74,756,243	111,027,363	302,067,164	739,360,970
6. Fixed charges:				
Rent for leased roads and equipment	10,172,472	11,964,464	68,665,388	86,325,759
Interest deductions[1]	28,889,445	30,330,582	207,316,653	219,730,204
Other deductions	122,408	114,318	843,159	776,736
6-04. Total fixed charges	39,184,325	42,409,364	276,825,200	306,832,699
7. Income after fixed charges	35,571,918	68,617,999	25,241,964	432,528,271
8. Contingent charges	3,520,596	3,334,393	21,117,630	23,200,067
9. Net income[2]	32,051,322	65,283,606	4,124,334	409,328,204
10. Depreciation (Way and structures and Equipment)	28,457,793	27,853,930	198,940,323	193,568,899
11. Amortization of defense projects	954,867	20,303,731	4,872,643	138,024,302
12. Federal income taxes	12,057,144	87,076,331	24,715,200	680,264,035
13. Dividend appropriations:				
On common stock	3,080,449	3,204,217	86,763,512	83,184,655
On preferred stock	935,075	783,407	26,127,870	22,836,466
Ratio of income to fixed charges (Item 5÷6-04)	1.91	2.62	1.09	2.41

All Class I Railways

Selected Asset and Liability Items	Balance at end of July 1946	Balance at end of July 1945
17. Expenditures (gross) for additions and betterments—Road	$119,879,364	$121,363,817
18. Expenditures (gross) for additions and betterments—Equipment	148,009,742	163,891,777
19. Investments in stocks, bonds, etc., other than those of affiliated companies (Total, Account 707)	581,821,256	551,453,453
20. Other unadjusted debits	186,361,787	258,742,712
21. Cash	1,220,974,647	1,887,536,011
22. Temporary cash investments	976,173,000	1,116,780,181
23. Special deposits	176,986,403	259,820,477
24. Loans and bills receivable	417,674	649,049
25. Traffic and car-service balances—Dr.	47,468,617	54,776,217
26. Net balance receivable from agents and conductors	118,413,404	136,835,232
27. Miscellaneous accounts receivable	360,085,116	615,446,201
28. Materials and supplies	619,761,759	607,417,370
29. Interest and dividends receivable	19,327,070	32,053,192
30. Accrued accounts receivable	185,866,776	286,061,019
31. Other current assets	32,869,730	60,599,914
32. Total current assets (items 21 to 31)	3,758,344,196	5,057,974,863
40. Funded debt maturing within 6 months[3]	84,867,887	103,722,380
41. Loans and bills payable	11,054,058	5,354,058
42. Traffic and car-service balances—Cr.	111,002,619	175,900,121
43. Audited accounts and wages payable	480,336,393	457,010,827
44. Miscellaneous accounts payable	181,134,089	203,732,699
45. Interest matured unpaid	44,708,640	46,486,083
46. Dividends matured unpaid	14,123,933	7,764,117
47. Unmatured interest accrued	59,197,275	55,673,555
48. Unmatured dividends declared	12,218,360	12,276,355
49. Accrued accounts payable	185,792,124	219,608,407
50. Taxes accrued	640,579,811	1,711,569,482
51. Other current liabilities	105,609,300	153,917,478
52. Total current liabilities (items 41 to 51)	1,845,756,602	3,049,293,182
53. Analysis of taxes accrued:		
U. S. Government taxes	493,906,452	1,542,751,596
Other than U. S. Government taxes	146,673,359	168,817,886
54. Other unadjusted credits	395,308,649	577,031,639

[1] Represents accruals, including the amount in default.
[2] After deduction of the following amounts to create reserves for land grant deductions in dispute: July 1946, $490,818; July, 1945, $3,864,915; 7 months of 1946, $1,868,361; 7 months of 1945, $24,718,194.
[3] Includes payments of principal of long-term debt (other than long-term debt in default) which will become due within six months after close of month of report.
Compiled by the Bureau of Transport Economics and Statistics, Interstate Commerce Commission. Subject to revision.

at its Washington, D. C., headquarters.

In another election, the Order of Railway Conductors of America, by virtue of a 68 to 61 victory over the Brotherhood of Railroad Trainmen, has retained its right to represent yardmen, including foremen, helpers and switchtenders, employed by the Aliquippa & Southern.

Results of other elections find Fort Worth & Denver City coach porters, who formerly were represented by the Joint Council Dining Car Employees, Local 351, Hotel & Restaurant Employees' International Alliance, now represented by the Brotherhood of Sleeping Car Porters, and Seaboard Air Line mechanical department foremen and supervisors of mechanics, formerly represented by unions which function through the Railway Employees' Department, American Federation of Labor, now represented by the American Railway Supervisors Association.

In other elections involving employees who formerly were without representation, the Brotherhood of Railroad Signalmen of America was chosen to represent signal, telegraph and telephone department employees of the Detroit & Toledo Shore Line, and the Service and Maintenance Employees' Union, Local 300, was named to represent non-professional service employees and building and ground maintenance employees of the Santa Fe Coast Lines Hospital Association. With respect to the latter election, the N. M. B. failed to certify the same union as the representative of clerical, office and related employees because "less than a majority of those eligible to vote in this group cast valid ballots in the election."

Carload Loading Requirements Defined by O. D. T.

The Office of Defense Transportation this week defined carload freight requirements for 10 types of commodities. The action, taken in Amendment No. 7 to Special Direction ODT 18A-1, became effective October 17, and aims to obtain the maximum loading of commodities concerned while at the same time making allowance for shipping or packaging limitations or peculiarities.

According to the O.D.T., under the special direction shippers of the commodities affected may either ship with O.D.T.'s heavy loading order, General Order ODT 18A, Revised,—which prohibits the shipment of freight at carload rates unless the quantity shipped equals or exceeds the minimum loading requirements of the order—or they may ship in accordance with the limitations defined in the amendment to the special direction.

The commodities and minimum loading requirements follow:

Cleaning compounds, in packages: 60,000 lb.

Phosphate of calcium, phosphate of sodium, phosphate of ammonia, disodium phosphate, sodium metasilicate and trisodium phosphate, in packages: 50,000 lb.

Potato starch, in packages: 60,000 lb.

Refined clay, in bags: 60,000 lb.

Fire brick, clay, silicate, magnesite, chrome, fire clay, high temperature bonding mortar, in straight or mixed carloads: 70,000 lb.

Asphalt roofing tile: 60,000 lb.

Linoleum cement, linoleum paste, caulking compound, roofing cement (roofing coatings), in packages, in straight or mixed carloads: 50,000 lb.

Foodstuffs in cans or in glass packed in cardboard or fibreboard cartons, in straight or mixed carloads: 65,000 lb.; in glass of one quart or less capacity, packed in cardboard or fibreboard cartons: six tiers high covering the entire floor space of car; in glass of over one quart capacity, packed in cardboard or fibreboard cartons: five tiers high covering the entire floor space of the car.

Asphalt, in bags: 60,000 lb.; in blocks weighing 400 lb. or more each or in wooden barrels of 40 gal. or more capacity or weighing 400 lb. or more: one tier high covering the entire floor space of the car.

Dates, in packages: 37,500 lb.

Car Service Orders

Provisions of Fourth Revised Service Order No. 180, which assesses super-demurrage charges on refrigerator cars, have been further suspended by the Interstate Commerce Commission in so far as they would apply on refrigerator cars held at or short of ports for transshipment to vessels, and on such cars when reconsigned or diverted. The further suspension, embodied in Amendment No. 9 to the order, is effective from October 17 until November 17; it will continue without interruption the same relief with respect to cars caught in the maritime strike which Amendment No. 8 provided until it expired on the 17th.

The Office of Defense Transportation has issued Amendment No. 1 to General Permit ODT 18A, Revised-18. The amendment continues in effect indefinitely the permit (issued on August 21 with an expiration date of October 21) which modifies the order's minimum-loading requirements on certain shipments of meat and other perishable foodstuffs for the armed forces.

O. D. T. has also modified its l.c.l. minimum-loading order to permit portable heaters to be shipped from any point in Maine in refrigerator cars when such cars would otherwise move empty to their des-

tination. The modification, embodied in General Permit ODT 1, Revised-9, became effective October 21 and expires March 21, 1947. Other recent modifications of this l.c.l. order are noted in the monthly report of Chairman Warren C. Kendall of the Car Service Division, A. A. R., which is reviewed elsewhere in this issue.

August Accident Statistics

The Interstate Commerce Commission has made public its Bureau of Transport Economics and Statistics' preliminary summary of steam railway accidents for August and this year's first eight months. The compilation, which is subject to revision, follows:

Item	Month of August		8 months ended with August	
	1946	1945	1946	1945
Number of train accidents*	1,463	1,311	10,182	11,570
Number of casualties in train, train-service and nontrain accidents:				
Trespassers:				
Killed	187	173	1,044	1,084
Injured	153	116	787	815
Passengers on trains:				
(a) In train accidents*				
Killed	....	34	47	52
Injured	189	200	1,073	1,284
(b) In train-service accidents				
Killed	3	5	34	46
Injured	346	251	1,995	1,827
Travelers not on trains:				
Killed	3	....	13	6
Injured	103	73	684	724
Employees on duty:				
Killed	65	65	434	576
Injured	3,452	4,079	25,521	31,617
All other nontrespassers:**				
Killed	143	134	1,286	1,271
Injured	523	449	4,248	4,473
Total—All classes of persons:				
Killed	401	411	2,858	3,035
Injured	4,766	5,168	34,308	40,740

* Train accidents (mostly collisions and derailments) are distinguished from train-service accidents by the fact that the former cause damage of more than $150 to railway property.

** Casualties to "Other nontrespassers" happen chiefly at highway grade crossings. Total highway grade-crossing casualties *for all classes of persons, including both trespassers and nontrespassers,* were as follows:

Persons:				
Killed	123	118	1,177	1,133
Injured	308	247	2,701	2,506

Sees Another Year of Freight Car Shortages for Farmers

"Shortage of rail transportation for agricultural raw materials and foodstuffs, which continued to hamper the marketings in 1946, is not expected to ease materially in 1947," according to the latest issue of "The Marketing and Transportation Situation," published by the Bureau of Agricultural Economics of the Department of Agriculture. With respect to air transportation, the bureau said that air freight rates have continued to decline while the volume of agricultural commodities shipped by air has continued to increase, the present movement being about 4,000,000 ton-miles monthly.

The pessimistic comment on the outlook for relief from tight freight car conditions went on to say that commodities which normally move in refrigerator cars "are likely to feel the shortage most seriously," although "if the present high level of industrial production is maintained through 1947, a repetition of this year's shortage of box cars for the loading of grain and grain products may be expected."

The supply of refrigerator cars "is now at a record low level and prospects for any substantial improvement in the situation in the immediate future are decidedly poor," the report also said. It went on to observe that many of the reefers now in service "are badly in need of repair," labor difficulties having held up repair programs. Moreover, delivery of the 8,000 new reefers on order at the time of the report's preparation was being "seriously retarded" by material shortages. "Even if half of these new cars are delivered by next July 1," the report continued, "the additional number will do little more than offset the number of cars that will be retired from service by that date."

With respect to box cars, the bureau anticipates that the supply suitable for grain loadings will "probably" fall short of requirements in 1947, the "severity of the shortage" depending in part upon the size of next year's grain crop, as well as upon industrial requirements for this type of equipment. Reference was next made to the "indiscriminate use of box cars by heavy industry during the war" which "damaged the interior of many cars, thus rendering them unsuitable for the loading of grain and flour."

"Since the beginning of the war," the report continued, "there has been a steady decrease in the percentage of box cars suitable for grain and grain products. Of the 700,000 box cars now in service, it is estimated that only 40 per cent are suitable for loading of these products, compared with about 60 per cent before the war." Commenting on the orders for new plain box cars, the bureau said that the 14,304 on order as of August 1 would be "wholly inadequate in the light of present and prospective requirements." At the same time it recognized the difficulties arising from materials shortages, saying that "unless material bottlenecks and other obstacles are overcome, the prospect of a substantial increase in car service in 1947 is poor."

Meanwhile, the supply of stock cars "will be generally adequate to handle the animals that are likely to be shipped by rail in 1947, although some shortages may be experienced during the periods of peak movements next fall." In this connection, improvements in the supply of truck tires and other phases of motor transportation "will probably result in a greater number of animals being shipped by motor vehicle, thus helping to avoid congestion in this type of rail traffic."

With further reference to the rising volume of agricultural shipments by air, the report's section on air transportation said that this business of the airlines "increased considerably in the first half of 1946 and all signs point to a continuation of this trend through 1947." The bulk of this traffic is handled by contract and so-called non-scheduled air carriers, and the shipments to date have consisted "mostly of high quality fruits, melons, and flowers."

On the matter of air-freight rates, the bureau reported that most of the airlines charge from 20 to 30 cents per ton-mile, although a few of the contract and non-scheduled operators charge as low as 15 cents per ton-mile. Recently, it added, "one of the nation's largest certificated carriers" announced a rate of 17½ cents per ton-mile. Later on in the report it is stated that recently an aircraft manufacturer "announced the development of a new cargo model, which would operate for less than 5 cents per ton-mile," which another manufacturer has "revealed plans for a double-deck, all-cargo plane which it is claimed will operate for 3.9 cents per ton-mile." It is anticipated that "these developments may soon result in rates based on costs of about 10 cents per ton-mile."

"When air freight rates are reduced further and the gap between air freight rates on the one hand and rail express and rail freight rates on the other is narrowed, an increasing volume of commodities will be shipped by air freight," the report also said. "The gap between air freight rates and rail express and rail freight rates is not only likely to be narrowed by further reductions in air freight rates within the next year, but also by anticipated increases in rail rates."

The bureau's consideration of the motor transportation outlook led it to conclude that "considerable improvement" may be expected next year. As to water transportation, it does not anticipate that coastwise and intercoastal service will be restored to pre-war levels in the coming year. Tonnages attracted to the coastwise lines now operated for the account of the Maritime Commission have been "disappointingly small," the report said. Meanwhile, the facilities for movement of grain on the Great Lakes "are considered adequate to meet all needs of this type of traffic during the coming year."

Hearing Site Changed

Hearings on the joint application of the Atchison, Topeka & Santa Fe and the Chicago, Burlington & Quincy for approval of a plan whereby the Santa Fe would acquire use of a direct line between Kansas City, Mo., and St. Louis and the Burlington would shorten its Chicago-Kansas City run by approximately 22 miles, originally announced by the Interstate Commerce Commission to be held at the Coronado Hotel, St. Louis, Mo., will be conducted instead in the St. Louis City Hall, the commission announced this week.

As noted in *Railway Age,* October 19, page 658, the hearings will open November 12 before Assistant Director Bowles of the commission's Bureau of Finance.

September Employment

Railroad employment decreased 0.42 per cent—from 1,368,019 to 1,362,315—during the one-month period from mid-August to mid-September, and the mid-September total was 3.49 per cent under that of September, 1945, according to the preliminary summary prepared by the Bureau of Transport Economics and Statistics of the Interstate Commerce Commission. The index number, based on the 1935-39 average, was 130.3 for September, as compared with 131.3 for the previous month and 135 for September, 1945.

September employment was above that of the corresponding 1945 month in only two groups, the increases being 0.26 per cent in transportation (train and engine service) and 1.54 per cent in transportation, other than train, engine and yard. The declines

ranged from 0.05 per cent in the executives, officials and staff assistants category to 11.48 per cent in maintenance of way and structures.

As compared with the previous month, there were employment increases in three groups, ranging from 0.35 per cent in transportation (yardmasters, switch-tenders and hostlers) to 0.73 per cent in maintenance of equipment and stores. The decreases ranged from 0.59 per cent in the professional, clerical and general category to 2.15 per cent in the maintenance of way and structures group.

Substituted-Service Truckers Relieved of Price Control

Price controls on line-haul substituted truck-for-rail services performed by motor carriers for railroads were suspended by the Office of Price Administration, effective October 21. The suspension, embodied in Amendment 104 to Revised Supplementary Regulation No. 11 to the General Maximum Price Regulation, does not include pick-up and delivery or local transfer services which remain subject to regulation under Section 9 of Supplementary Regulation No. 14-H.

Materials and Prices

The following is a digest of orders, notices and information issued by the Office of Price Administration, the Civilian Production Administration and the National Housing Agency since October 7, of interest to railways:

Lumber—Lumber has been placed under a new C. P. A. limitation order and additional provisions made to insure more adequate supply of lumber, hardwood flooring and millwork. New Order L-359, takes the place of Direction 1 to PR 33, effective Nov. 1.

Soil Pipe—Changed definition of a "new producer" of cast iron soil pipe and fittings, under premium payments Regulation 8, has been prepared by the National Housing Agency to be effective as of Oct. 10. It conforms with Regulation 9, which covers the merchant pig-iron industry.

Tankcars — Because of the short supply of chlorine, caused in part by lack of sufficient transportation facilities, the sale of 73 specially constructed pressure tankcars by the W. A. A. will be limited by C. P. A. to purchasers who agree to use them until March 31, 1947, only for transportation of chlorine, in Direction 24 to PR 13.

Wire and Cable—A standing subcommittee of the wire and cable industry advisory committee which will devote its attention to braided flexible cords prices has been called by O. P. A. to meet Oct. 24.

Prices

Copper—Increases ranging from $2 to $4 a ton in premiums and toll charges for converting or casting refined copper into special shapes have been authorized in Amendment 9 to Revised O. P. A. Schedule 15, effective Oct. 14.

Cross Ties—Mill ceilings for split (or hewn) redwood crossties have been increased by $7.50 per M. ft. b. m. in Amendment 3 to O. P. A. Regulation 556, effective Oct. 16.

Decontrol—Several items of rubber, chemical, drug, lumber, and miscellaneous automotive equipment have been removed from price controls in Amendment 58 to Supplementary O. P. A. Order 129, effective Oct. 9.

Decontrol—Price control has been suspended on petroleum products made primarily with an asphalt or wax base, which are among those commodities manufactured predominantly by other than petroleum refiners, in Amendment 3 to Supplementary O. P. A. Order 166, effective Oct. 11.

Dining Cars—Prices for meals, individual food items and beverages served on railroad dining cars, cafe cars or club cars, have been exempted from price control in Amendment 6 to O. P. A. Restaurant Regulation 1, effective Oct. 11.

Glass, Pigments and Fencing—Laminated glass, natural and synthetic mineral pigments and rustic fencing, have been suspended from price control in Amendment 59 to Supplementary O. P. A. Order 129, effective Oct. 10.

Linseed Oil—Manufacturers of linseed replacement oil have been authorized by O. P. A. to sell and deliver their product on an adjustable pricing basis in Order 55 under Section 19A of the general maximum price regulation, effective Oct. 10.

Pig Iron—It was announced that producers of merchant pig iron, under premium payments R 9, have until Nov. 15 to file certifications in connection with bonuses they pay to steel grade pig iron producers in September, under Amendment 1 issued by the housing expediter.

Redwood Lumber—Ceiling price increases for dry and finished redwood lumber items have been authorized in Amendment 13 to O. P. A. Regulation 253, effective Oct. 16.

Wrenches—Price increase factor provided for manufacturers of stillson type pipe wrenches has been raised from 5 per cent to 22 per cent above March, 1942, levels in Amendment 1 to Order 5105 under O. P. A. R 188, effective Oct. 21.

Zinc—Ceiling prices for primary slab zinc have been increased 1 cent a lb. and zinc scrap materials are raised ¼ cent a lb. in Amendment 3 to R 3, Amendment 16 to SR 14G 166, Amendment 6 to RPS 81 and Amendment 2 to R 124, all effective Oct. 14.

Equipment and Supplies

Electro-Motive "Unveils" F-3 Wide-Range Diesel

Quantity production has been started on the F-3, wide-range Diesel-electric locomotive which the Electro-Motive Division of General Motors has been demonstrating on 21 Class I railroads during the last 14 months, according to C. R. Osborn, vice-president of General Motors and general manager of its Electro-Motive Division, who, with H. L. Hamilton, vice-president, General Motors, N. C. Dezendorf, director of sales and service, and R. N. Dilworth, chief engineer, "unveiled" the new locomotive to the press at the LaGrange, Ill., plant of the division on October 22, coincident with commemoration of the tenth anniversary of the establishment of the plant at LaGrange.

Mr. Osborn, disclosing publicly for the first time details of the new locomotive's capabilities and construction, pointed out that this unit has already behind it more than 110,000 miles of highly successful tests under a wide range of operating conditions in both freight and passenger service, and said that the demonstration tests were so successful that 30 roads of the country had already placed orders for a total of 1,177,500 hp. of the F-3, even before production was started.

The first lot of F-3's, geared for 100-mile-an-hour service on such trains as the "Super Chief" and "Chief" of the Santa Fe, are scheduled for delivery this month, he said, in partial fulfillment of an order from the Santa Fe, which already has 364 General Motors locomotive units in passenger, freight and switching service. The F-3, he pointed out, is also the type of which the Pennsylvania has ordered 40 units to be operated as ten 6,000-hp. locomotives to Dieselize the "Broadway Limited" and other fast Pennsylvania passenger trains.

"The F-3 is not a 'radically new' locomotive," said Mr. Osborn. "Rather, it represents an accumulation of development based upon experience in the widespread use of our locomotives in all classes of service. Development was dammed up between 1941 and 1945 by the war, when we were busy with large U.S. Navy contracts for our Diesel engines and other equipment, and were restricted to the production of our freight locomotive only.

"By the time we resumed full production we had 238 passenger units in service for years. They had operated a total of more than 200,000,000 miles of regularly scheduled high-speed service. We also had had 784 switching locomotives in service, some for over a decade. Added to this, we had the experience gained from the operation of the more than 1,100 of our 1,350-hp. freight locomotive units which have gone into service since this locomotive was introduced in 1940. These freight locomotives have handled more than 160 billion ton-miles of freight.

"With all this background of millions of miles of passenger service and billions of ton-miles of freight service," he continued, "our engineers have had a wealth of opportunity to determine the characteristics of a locomotive which would most nearly meet the requirements for an all-purpose, main-line locomotive capable of excelling previous performance of any type of locomotive throughout its wide range of speeds."

After calling attention to the fact that American railroads have long been searching for motive power with a performance range so wide that it could be equipped to serve successfully in either heavy-duty fast passenger or heavy-duty freight service, or, in some cases, in a combination of both, Mr. Osborn presented the new F-3, with locomotive units of 1,500 hp., as the answer. He pointed out that the new locomotive is based fundamentally upon the present 1,350-hp. freight unit of the division—which he said had already demonstrated many of the characteristics of this long-desired, wide-range locomotive—"with all the improvements held back during the war, plus the refinements our engineers worked out between the end of the war and a year ago last August when the F-3 first was put into demonstration service."

"Thus," he said, "we come out in the F-3 with a locomotive unit of 1,500 hp., which wide experience demonstrates is the most useful all-purpose size, plus other improvements in the already high flexibility, easy accessibility for maintenance or repair, and economic operation, of our earlier units." [A detailed description of the new F-3 appears in the feature pages of this issue—EDITOR.]

LOCOMOTIVES

The SOUTHERN PACIFIC has ordered 20 6,000-hp. Diesel-electric freight locomotives from the Electro-Motive division of the

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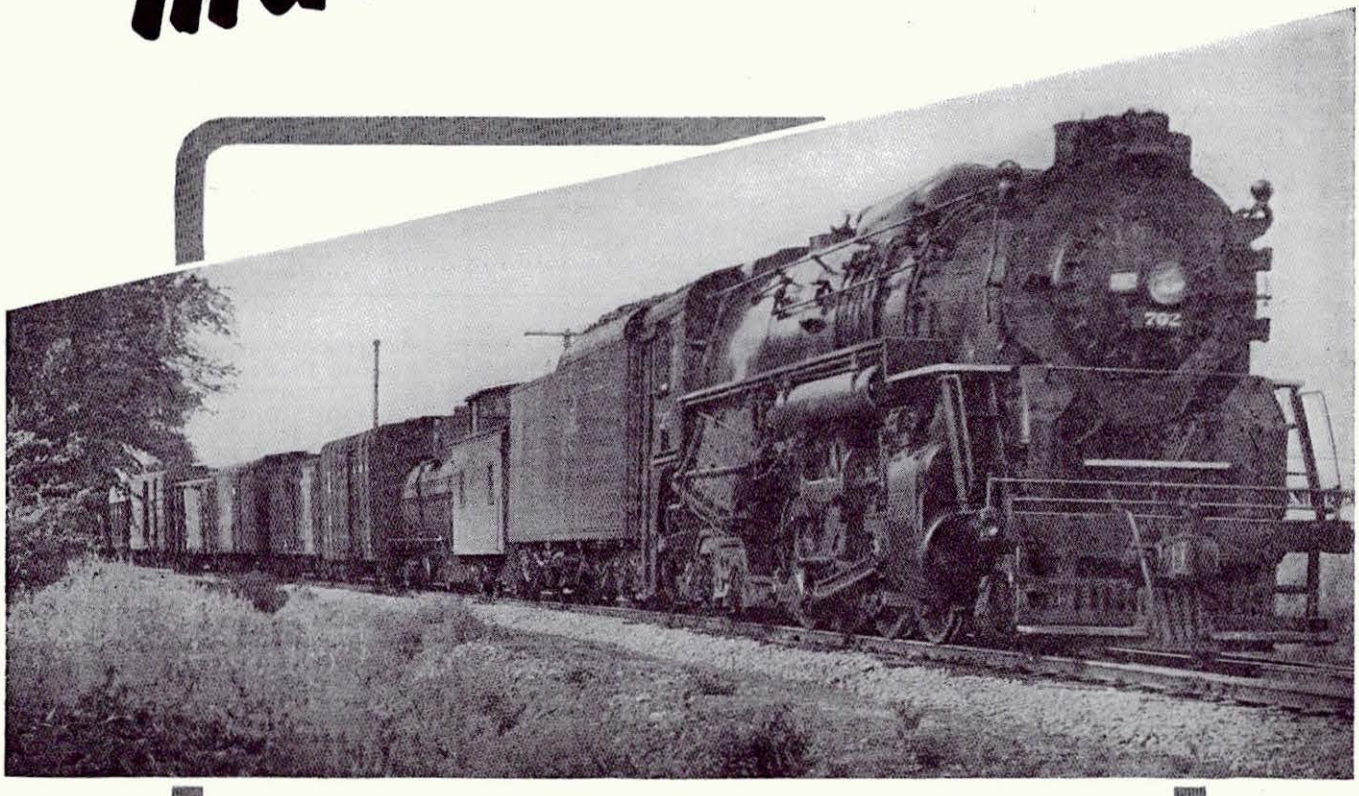
WHEN FREIGHT...

must move fast



Over half the freight tonnage of the Detroit, Toledo and Ironton carried in 1945 consisted of partially or completely manufactured products, much of which called for fast transportation and prompt deliveries.

An important factor in enabling the D. T. & I. to maintain the necessarily fast schedules, with heavy trains, was its fleet of eighteen modern Lima-built steam locomotives placed in service during recent years.

LIMA LOCOMOTIVE WORKS INCORPORATED, LIMA, OHIO

General Motors Corporation. The new units will be used in main-line operation, and are in addition to a recent purchase of five 6,000-hp. Diesel-electric passenger locomotives from the same manufacturer.

The CLINCHFIELD has ordered 4 locomotives of the 4-6-6-4 type from the American Locomotive Company. The inquiry for this equipment was reported in the *Railway Age* for September 7, page 424.

FREIGHT CARS

The CUDAHY PACKING COMPANY is inquiring for 200 40-ton refrigerator cars.

The UNION PACIFIC has ordered 1,000 70-ton ballast cars from the American Car & Foundry Company. The inquiry for this equipment was reported in the *Railway Age* for September 21, page 496.

SIGNALING

The ELECTRO-MOTIVE DIVISION of General Motors Corporation has ordered 42 sets of train control equipment from the General Railway Signal Company. Six sets of continuous inductive equipment are for installation on freight Diesel-electric locomotives for the Chicago & North Western, 16 sets of intermittent inductive equipment are for installation on passenger Diesel-electrics for the New York Central, and 20 sets of intermittent inductive equipment are for installation on freight Diesel-electrics for the Alton.

The ALTON has ordered equipment from the General Railway Signal Company for the installation of an all-relay electric interlocking at Springfield, Ill. The control machine will have a 12-in. by 12-in. panel equipped with 7 track indication lights, 3 signal levers, and 2 call-on push-buttons for the control of a crossing of a single-track line of the Baltimore & Ohio with a double-track line of the Alton. Type K relays, Type V color-position-light dwarf signals, and Type U color-position-light high signals will be used in this installation.

The CHICAGO & NORTH WESTERN has ordered materials from the General Railway Signal Company for the expansion of an all-relay electric interlock at Marshfield, Wis. A 12-in. by 15-in. panel, equipped with 13 track indication lights and 4 signal levers, will be installed on the existing machine at Marshfield depot to control 9 signals at a crossing with the Minneapolis, St. Paul & Sault Ste. Marie. Type B plug-in relays, Type SA searchlight signals, and Type ME dwarf signals will be used on this addition.

IRON AND STEEL

The BALTIMORE & OHIO has ordered 28,500 tons of 131-lb. rail and 11,500 tons of 112-lb. rail from the Bethlehem Steel Company; 27,600 tons of 131-lb. rail and 11,600 tons of 112-lb. rail from the Carnegie Steel Company; and 1,000 tons of 112-lb. rail from the Inland Steel Company. Orders for 35,000 tons of track accessories have been placed with various manufacturers. The announcement described the rail order as the largest placed by this road since before the war.

Supply Trade

SKF Railway Service Silver Anniversary

In 1921, a quarter of a century ago, the SKF applied ball bearings to six coaches on the Pennsylvania, although as early as 1911 SKF ball bearings were used on train lighting generators and before the first world war experimental applications were made on two coaches. October 22 and 23, however, were observed as its silver anniversary in railroad service. A large group of railroad officers and railway supply manufacturers were guests at its plants in Philadelphia on October 22, and on the following day the group was taken behind the scenes on an all-day inspection program at the Philadelphia Naval Base. William L. Batt, president of SKF, flew back from Europe to act as host.

On the morning of the first day a tour was made through the spherical roller bearing production plant. After luncheon Plant No. 2 was visited to see "how balls are made round." This was followed by an inspection of the new journal box production line. During the evening a dinner was held at the Barclay hotel.

The Navy program included an inspection of the ship "preservation program" on a cruiser and a battleship, a trip through the Navy's newest aircraft carrier, the "Valley Forge," and also through a submarine. During the afternoon a number of exciting demonstrations were witnessed, including the catapult launching of naval aircraft, a naval aircraft landing in carrier arresting gear, and the method used for ejecting a pilot from a high speed plane.

W. C. Rush, sales and service engineer at St. Louis, Mo., for the **Independent Pneumatic Tool Company,** Chicago, has been appointed manager of the company's branch at Pittsburgh, Pa. **H. C. Brown** becomes manager of the new branch office at 426-428 Elm street, Cincinnati, Ohio. These changes are subsequent to those reported in the *Railway Age* of October 12.

Elmer A. Mulson, sales engineer with the Barney Machinery Company, Pittsburgh, Pa., for the past ten years, has been appointed manager of the Pittsburgh district office of the **Baldwin Locomotive Works.** Mr. Mulson will represent the company in its sales of steam and Diesel-electric locomotives, testing machines, industrial presses, marine propellers and alloy castings.

Elmer A. Mulson

Oscar G. Knapp, former vice-president of the **Clark Brothers Bolt Company,** Milldale, Conn., has been elected president to succeed the late Edwin S. Todd. Mr. Knapp will retain his duties as treasurer.

The electronic tubes, laboratory, industrial and electronic devices for communication applications manufactured by **Sylvania Electric Products, Inc.,** will be distributed in Canada through **Stromberg-Carlson, Ltd.,** it has been announced.

Ralph W. Payne Company, Washington, D. C., has been appointed regional representative of the Equipment Specialties Division of **Union Asbestos & Rubber Co.,** Chicago, for the sale of Equipco hand brakes for freight cars.

John S. Coleman, a vice-president and director of **the Burroughs Adding Machine Company** since May, 1944 has been elected president to succeed **Alfred J. Doughty,** resigned. **Laurence V. Britt,** former executive vice-president, was elected chairman of the board of directors and of a newly-formed executive committee.

Geneva Steel Company, a subsidiary of the United States Steel Corporation, has announced that on October 14 Geneva, Utah, was established as a basing point for application to sheared steel plates, within the range of sizes, grades, finishes, and specifications currently produced at that point. Delivery price at Geneva for sheared plates will be $2.675 per 100 lb. in carload lots.

Construction

Frisco Plans $5 Million Program

Permission to spend approximately $5 million in expanding and improving present yard facilities at Springfield, Mo., was requested by Frank A. Thompson, trustee of the St. Louis-San Francisco, in a petition filed October 19 before United States District Judge George H. Moore in St. Louis, Mo. The expenditure would be for the construction of new yard facilities and new mechanical facilities near the present West shops at Kansas avenue, Springfield. The new yards would replace the present North

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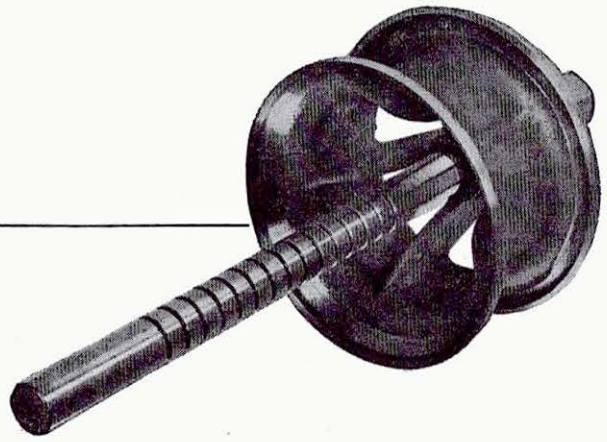
POPPET VALVES

will increase power of

underboilered locomotives



The fact that a certain class of locomotive is deficient in boiler capacity is an added and compelling reason for seriously considering installation of the Franklin System of Steam Distribution.

The Franklin System materially increases the horsepower which can be produced from a given quantity of steam. Using poppet valves in place of piston valves, it increases the efficiency of transforming steam into horsepower — will produce, *for the same boiler output and for the same fuel consumption,* 19% to 30% greater maximum power, depending on locomotive design.

This increased capacity may well be the extra power needed to permit an underboilered locomotive to take its place in regular service — either freight or passenger. If so, conversion to poppet valves will be one of the most worthwhile investments you can make.

May we show you what can be done with locomotives which you consider deficient in boiler capacity?

FRANKLIN RAILWAY SUPPLY COMPANY, INC.

NEW YORK • CHICAGO • MONTREAL

STEAM DISTRIBUTION SYSTEM • BOOSTER • RADIAL BUFFER • COMPENSATOR AND SNUBBER • POWER REVERSE GEARS
AUTOMATIC FIRE DOORS • DRIVING BOX LUBRICATORS • STEAM GRATE SHAKERS • FLEXIBLE JOINTS • CAR CONNECTION

yards located near the heart of the commercial section of the city.

Other projects in the program would include construction of a new enginehouse, machine shop, blacksmith shop, restaurant for Frisco employees, a two-story office for the yard superintendent and other yard employees, a 400-ton coal chute, oil storage tanks, communication facilities, power lines, water tanks and other facilities. Approximately 53 miles of new track will be included in the project, and the yard capacity at Springfield would be increased to approximately 3,000 cars, or about twice its present capacity.

Mr. Thompson's petition declared the present facilities at Springfield "for many years have been, and are now, inadequate to meet fully the requirements of the railroad . . . and the cost of operation thereof is exceedingly high." He pointed out that the present car facilities at Springfield are "about the same as they were about 40 years ago" and that "because of the inadequacy of the present yard facilities there is considerable delay in the operation of through freight trains arriving at and departing from said yard and to yard operations, as a result of which the cost of operation is expensive."

The court was asked to make available a special fund to finance the program, there being sufficient cash on hand to create such a fund. Mr. Thompson said the proposed project will be the largest single construction job ever undertaken by the Frisco, and estimated it would take approximately two years for its completion if approved by the court. He said work would begin on the project as soon as possible.

CHESAPEAKE & OHIO.—This road has awarded a contract to the Ferguson & Edmondson Co., Pittsburgh, Pa., for grading and masonry work in connection with yard and engine terminal improvements at Shelby, Ky. The estimated cost of this contract is $253,000. Haley, Chisholm & Morris, Inc., Charlottesville, Va., received a contract, to cost an estimated $21,300, for extending bridge 4281 at Montgomery, W. Va. The C. & O. is preparing data to request bids on the authorized yard and engine terminal improvements at Shelby, which will involve the construction of 12 classification tracks and a switching lead, a new depot, bunkhouse, 3-stall enginehouse, a machine and smith shop, a 115-ft. turntable, a general foreman's office and storeroom, an inspection pit and water and electric power facilities. The probable cost of this project is $1,192,000. Also authorized is a project for the installation of flasher light signals at five street crossings at Pikeville, Ky. This work, to be done by the road's own forces, will cost an estimated $24,750.

SMITHFIELD TERMINAL.—Division 4 of the Interstate Commerce Commission has authorized this road to (1) construct and operate approximately 2,800 ft. of trackage in the vicinity of Smithfield, Va., and (2) operate car floats across the James river between this line and Newport News, Va. The car floats will handle cars to and from the terminal of the Chesapeake & Ohio on the James river at Newport News.

* * *

Certificate of Merit goes to the Western Railroad Supply Company

The New York Museum of Science and Industry's tribute for the contribution to safety of a crossing gate manufactured by this company. Receiving the award from the museum's director, Robert P. Shaw, is Godfrey Gort, the company's president.

Financial

ALTON.—*Reorganzation Confirmed.*—The reorganization plan of the Alton, whereby that road will be taken over by the Gulf, Mobile & Ohio, was confirmed on October 21, by Federal Judge John P. Barnes at Chicago. At the time of the confirmation, Judge Barnes refused to name three residents of New York City originally proposed as reorganization managers, declaring that the latter should be residents of the area served by the Alton. He instructed that a new list of names be prepared from which the reorganization managers can be selected.

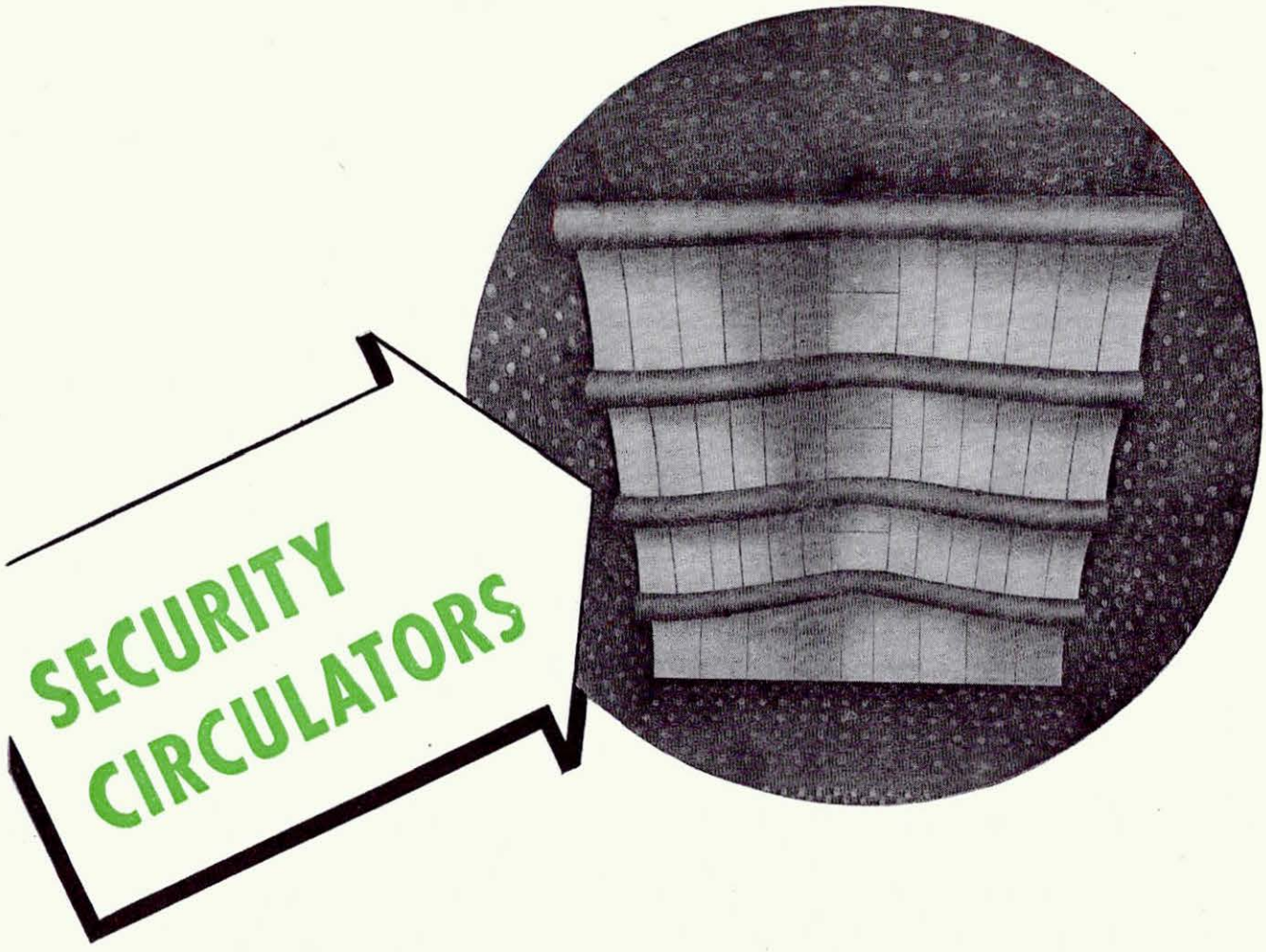
The plan, which was approved by Judge Barnes on May 28, 1946, provides that G., M. & O. take over the assets and $4,410,958 in equipment obligations of the Alton. In exchange, Alton refunding mortagage bondholders will receive $22,675,000 in G., M. & O. general mortgage series income bonds and 328,787½ shares of G., M. & O. no-par common stock. The plan also stipulates that the Alton's leases of two lines—the Joliet & Chicago and the Louisiana & Missouri River—be assumed by the G., M. & O., and payment made of all back dividends. The lease of a third line—the Kansas City, St. Louis & Chicago—will be amended, but security-holders will receive bonds of the leased line for their holdings. When consummated, the merger will set up a continuous line from Chicago to the Gulf area. Details of the merger were set forth in the *Railway Age* of September 29, 1945.

ATCHISON, TOPEKA & SANTA FE.—*Promissory Notes.*—This road has requested bids by October 29 for the lowest interest rate at which bidders will furnish money to finance the purchase of any or all of the following equipment: Not over $2,904,000 on or before February 15, 1947, for 6 6,000-hp. Diesel-electric locomotives to be built by the Electro-Motive division of the General Motors Corporation; not over $2,024,000 on or before July 1, 1947, for 4 6,000-hp. Diesel-electric locomotives to be built by the American Locomotive Company; not over $927,800 on or before February 1, 1947, for 250 50-ton wood-lined steel box cars to be built by the Pullman-Standard Car Manufacturing Company; not over $2,352,000 on or before March 1, 1947, for 350 40-ton wood-lined steel refrigerator cars to be built by Pullman-Standard; and not over $2,744,400 on or before October 1, 1947, for 750 50-ton wood-lined steel box cars to be built by the General American Transportation Corporation.

BALTIMORE & OHIO.—*Equipment Trust Certificates.*—This road has applied to the Interstate Commerce Commission for authority to issue the $7,620,000 in equipment trust certificates for which it has asked bids subject to commission approval, as noted in *Railway Age,* October 19, page 663.

DELAWARE, LACKAWANNA & WESTERN.—*Equipment Trust Certificates.*—This road has sold $4,250,000 of serial equipment trust certificates, maturing from 1947 to 1956, to the First National Bank of New York and associates, which bid 100 for a 2 per

News Department continued on next left-hand page



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SECURITY CIRCULATOR DIVISION

cent interest rate. (See *Railway Age* of October 12, page 620.)

DENVER & RIO GRANDE WESTERN.—*Reorganization Expenses.*—Division 4 of the Interstate Commerce Commission has set $230,000, in the event of consolidation with the Denver & Salt Lake, or $220,000, if there is no consolidation, as the maximum limit of expenses to be incurred by the reorganization committee, exclusive of fees and expenses of its attorneys, in putting into effect and consummating the plan of reorganization of this road. The commission further established $159,000 as the maximum allocation for non-statutory expenses and $71,000 for statutory expenses in the event of consolidation, and $150,000 and $70,000, respectively, if there is no consolidation.

MINNEAPOLIS & ST. LOUIS.—*Reorganization Expenses.*—Division 4 of the Interstate Commerce Commission has approved $522,752 as the maximum limits of final allowances to be paid to Coverdale & Colpitts, as reorganization manager, for services rendered and expenses incurred from July 16, 1938, to the date of the "closing of the record" in connection with the reorganization of this road. The commission also approved $11,400 as the maximum limit to be paid the same party for services to be reidered and expenses to be incurred "from the date of the closing of the record . . . to the termination of the proceedings" in connection with the reorganization plan.

NEW YORK CENTRAL.—*Trackage Rights.*—This road, as lessee of the Michigan Central, has applied to the Interstate Commerce Commission for authority to acquire trackage rights over 1.4 miles of line of the New York, Chicago & St. Louis at Toledo, Ohio.

NEW YORK, SUSQUEHANNA & WESTERN.—*Reorganization.*—Division 4 of the Interstate Commerce Commission has modified its order of May 4, 1943, in the Finance Docket No. 11681 proceeding, thereby increasing from $12,000 per year to $16,000 per year, starting July 1, 1946, the maximum compensation to be paid Ralph E. Lum as counsel for the trustee of this road.

TEXAS & NEW ORLEANS.—*Bonds.*—This road has asked the Interstate Commerce Commission to issue a supplement to its order of May 19, 1944, thereby reducing from $16,178,000 to $9,000,000 the amount of series A first and refunding bonds, due January 1, 1987, which the commission authorized the T. & N. O. to issue. A total of $7,178,000 in series A bonds has not been issued, the applicant having determined subsequently to request authority to issue instead a like amount of series D first and refunding bonds, which the commission authorized it to do on May 17. The bonds are being delivered to the Southern Pacific in exchange for a like amount of the applicant's prior lien bonds.

Average Prices Stocks and Bonds

	Oct. 22	Last week	Last year
Average price of 20 representative railway stocks..	48.33	49.56	59.06
Average price of 20 representative railway bonds..	88.93	89.46	98.78

Dividends Declared

Atlantic Coast Line.—$1.00, payable December 12 to holders of record November 15.

Louisville & Nashville.—88¢, quarterly, payable December 12 to holders of record November 1.

Norfolk & Western.—$2.50, quarterly, payable December 10 to holders of record November 14.

Southern. — Preferred, $1.25, quarterly; 75¢, quarterly, both payable December 16 to holders of record November 15.

Wheeling & Lake Erie.—5½% convertible preferred, $1.37½, quarterly; 4% prior lien, $1.00, quarterly, both payable November 1 to holders of record October 21.

Abandonments

Would Keep Line Where Public Spends Millions for Roads

Examiner J. S. Prichard has recommended in a proposed report that Division 4 of the Interstate Commerce Commission require the Southern Pacific to relocate and keep in operation a line that will be partially inundated by a government flood-control project in connection with which the interested agencies have planned to spend some $4,390,000 on highways while finding that the territory's transportation needs are insufficient to warrant the cost of relocating the rail line. The government's settlement with the railroad was the exercise of an option to acquire the line, subject to commission approval of its abandonment, for $413,169, the estimated salvage value.

Examiner Prichard's proposed report is in the Finance Docket No. 15233 proceeding wherein the S. P. is seeking unconditional authority to abandon the line involved—that portion of its so-called Mill City branch extending from Gates, Ore., to Idanha, 20.6 miles, of which approximately 8 miles will be submerged by a North Santiam river flood-control project known as the Detroit dam or Detroit project. The examiner recommends that the abandonment be authorized only on condition that "as much of the said branch as may be necessary to insure continued operation thereof shall be relocated, with the understanding that the present service afforded by the branch is not to be discontinued until construction of the relocated portion thereof is completed and placed in operation."

While Mr. Prichard would thus have the commission heed protests of lumber interests served by the line, he reflected no appreciation of the attitude assumed by the government agencies interested in the flood-control project. "The War Department and other governmental agencies connected with the Detroit project," he said, "appear to be very generous in their zeal to provide the territory with highways to the exclusion of the railroad and they make it clear that the construction of such highways has been commenced and will be completed regardless of what becomes of the railroad. They seem to assume that the magnitude of the project, with its proposed system of highways, is so overwhelming, by comparison, that it precludes any question as to whether the present and future public convenience and necessity would be served to better advantage by the railroad than by truck, and that the industries in the tributary territory must accept such means of transportation as may be left to them under the circumstances. Very few of the shippers have been consulted as to their choice between rail and truck transportation."

It was not clear to the examiner why the government's option covered purchase of the 20.6 miles of line proposed to be abandoned when only about 8 miles were to be inundated. Neither was it clear why the whole 20.6 miles would have to be relocated if the line were to be continued in operation. However, the evidence set forth estimates of the cost of relocating the whole line, so the proposed report discussed the matter on that basis.

The S. P. estimated that it would cost about $4,000,000 to relocate along the north side of the dam, a route selected as the "most desirable" course because more people live in that section than in the territory south of the dam. A witness for the protestants selected a route south of the dam and estimated at $1,500,000 the cost of a line which would "serve the purpose required of it," although he conceded that his estimate did not contemplate the same "high standards of construction" as that of the S. P. At the same time the witness argued that selection of the route south of the dam should preclude the necessity of constructing a highway projected to serve the so-called Blowout Creek timber area in that locality. And the examiner suggested that the funds which would be required for the highway, estimated at $850,000, "perhaps could be applied to the cost of relocating the line."

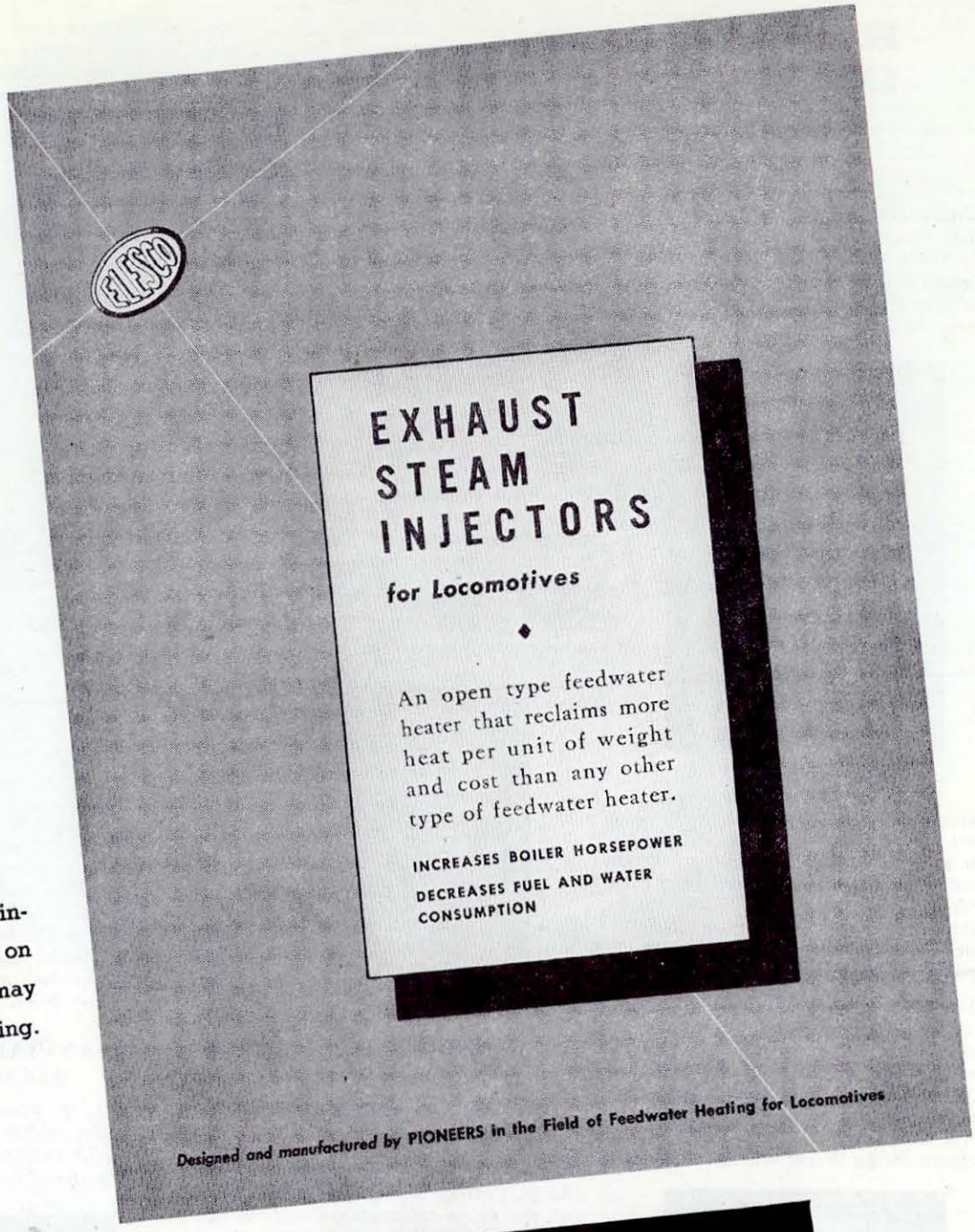
In recommending that in any event the relocation be required as a condition to approval of the proposed abandonment, Mr. Prichard found that such a requirement was warranted by the prospective lumber traffic and the resultant system revenues which would accrue to the S. P. "It cannot be concluded," he said, "that the proposed highways, which are subject to ice conditions during winter months, would provide an adequate means of transportation in lieu of the railroad."

CENTRAL OF NEW JERSEY.—This road has applied to the Interstate Commerce Commission for authority to abandon a portion of its so-called New York & Newark branch, extending 2.6 miles from a point near Communipaw to a point near Kearny all in Hudson county, N. J. The proposed abandonment includes a bridge over the Hackensack river, which, according to the applicant, was damaged on February 3 and cannot be restored because of a pending War Department order. The road also said that the branch has been operated at a "substantial loss" for many years.

PACIFIC COAST.—This road has applied to the Interstate Commerce Commission for authority to abandon its so-called Black Diamond branch, extending 7.2 miles from Maple Valley, Wash., to Black Diamond. The applicant said that the closing of a mine at Black Diamond will leave the branch without sufficient traffic.

SACRAMENTO NORTHERN.—Division 4 of the Interstate Commerce Commission has authorized this road to abandon 4,080 ft. of track, including 2,968 ft. of yard tracks, located within the limits of Woodland, Calif.

News Department continued on next left-hand page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Edward T. Watson, train master of the Union Pacific, with headquarters at Salina, Kan., has been promoted to assistant superintendent, with headquarters at Cheyenne, Wyo. Mr. Watson is succeeded by **R. A. Roberts,** safety agent, with headquarters at Kansas City, Mo. **Elgin Hicks,** superintendent of the Nebraska division, with headquarters at Omaha, Neb., has been transferred to Cheyenne, succeeding **E. H. Bailey,** who has been transferred to Omaha as superintendent.

R. D. Maloney, assistant superintendent, Lake Erie & Western district, New York, Chicago & St. Louis, has been promoted to superintendent, with headquarters as before at Muncie, Ind., succeeding **F. J. DeGrief,** who has retired. **Z. T. Komarek,** assistant to general manager at Cleveland, Ohio, has been appointed assistant superintendent at Muncie, to succeed Mr. Maloney. **E. B. Hunter,** trainmaster of the Cleveland division at Conneaut, Ohio, has been promoted to assistant to general manager at Cleveland. **C. E. Yarnell,** trainmaster of the Buffalo division at Conneaut has been transferred to the Cleveland division, with headquarters as before at Conneaut, succeeding Mr. Hunter. **R. A. Gleason,** terminal supervisor at Cleveland, has been appointed trainmaster of the Buffalo

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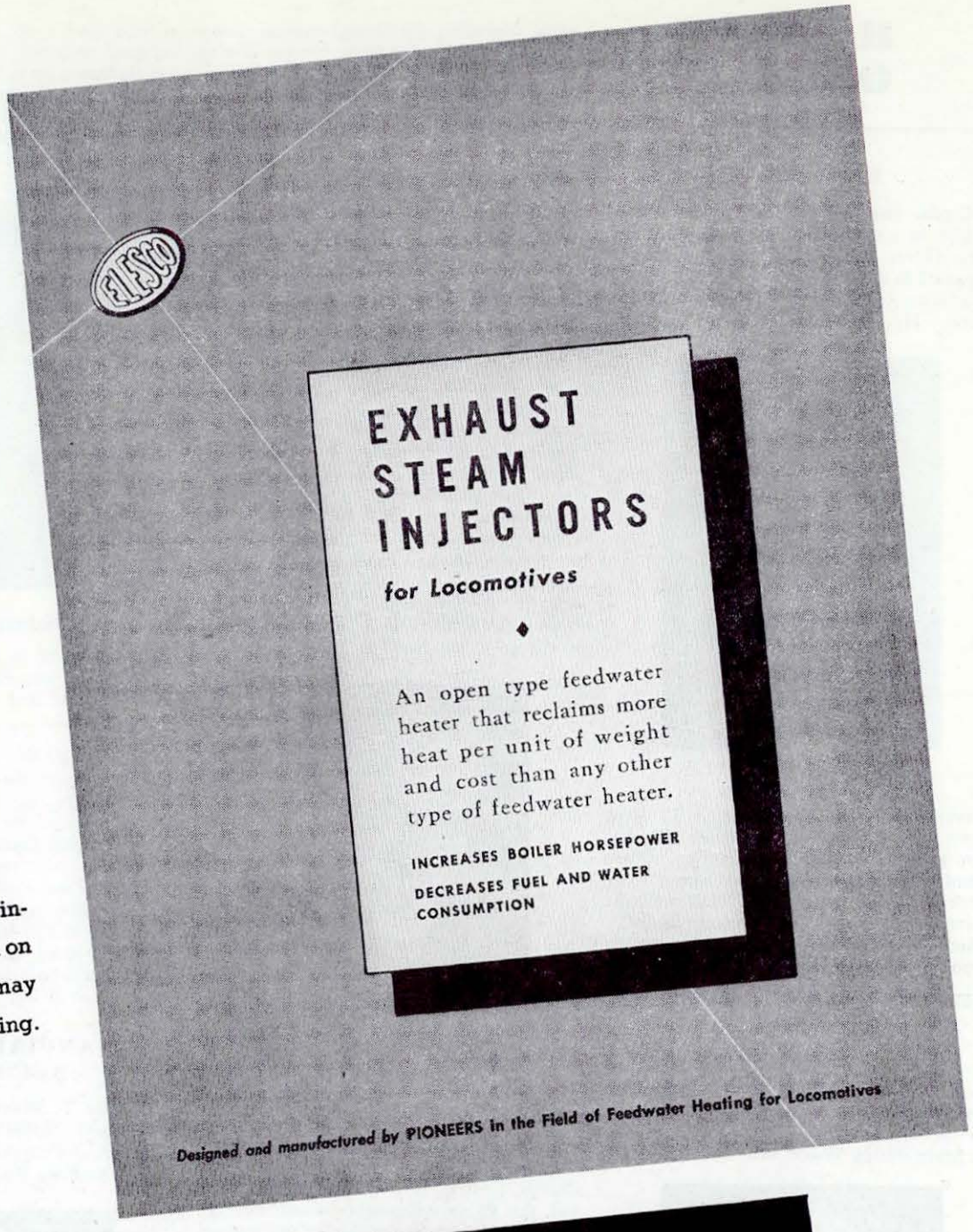
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Railway Officers

EXECUTIVE

C. M. Hull, whose appointment as assistant to vice-president of the New York, New Haven & Hartford at New York was reported in the *Railway Age* of October 12, was born on May 18, 1885, at Guilford, Conn. Mr. Hull has been with the New

C. M. Hull

Haven for 42 years, of which 32 were spent on the New York division. He began as a clerk and stenographer, subsequently working as time clerk, agent, chief clerk and trainmaster. Mr. Hull was appointed assistant superintendent in 1927, which position he held until his recent appointment as assistant to vice-president.

E. Roland Harriman, whose election as chairman of the board of directors of the Union Pacific was reported in the *Railway Age* of October 19, was born on December 24, 1895, at New York, and was graduated from Yale university in 1917. He served as a lieutenant in the ordnance department during World War I, and entered

E. Roland Harriman

the banking business at New York in 1922. Mr. Harriman is a partner in Brown Brothers, Harriman & Company, New York, and a director in many companies, including the Delaware & Hudson, Newsweek magazine, Holland-American Trading Corporation, Anaconda Copper Mining Company, Provident Fire Insurance Company and others. He is president of the Boys, Club of New York and treasurer of the American Museum of Natural History.

W. E. Smith, vice-president and general manager of the Louisville & Nashville, will retire, effective November 1, following 61 years of continuous service with the road. He will be succeeded by **L. L. Morton,** who is now assistant vice-president and assistant general manager (operating, engineering and roadway) and director of personnel.

W. Averell Harriman, whose resignation on October 3, as chairman of the board of directors of the Union Pacific, was reported in the *Railway Age* of October 19, was born on November 15, 1891. Immediately following graduation from Yale University in 1913, he began his railroad career as a clerk of the Union Pacific at Omaha, Neb. Subsequently he was transferred to various positions in the mechanical and engineering departments and, from 1914 until 1918, was vice-president in charge of purchases for the system. He

W. Averell Harriman

was subsequently elected a director, and later was elected also to the board of the Illinois Central, the Central of Georgia, and the Ocean Steamship Company. In 1931 Mr. Harriman was elected chairman of the executive committee of the Illinois Central, and a year later became chairman of the board of directors of the Union Pacific.

Mr. Harriman is a partner in Brown Brothers, Harriman & Company, New York. He was appointed ambassador to Russia in 1943, and only recently became United States Secretary of Commerce.

Herbert A. Taylor, whose retirement as vice-president and general counsel of the Erie, with headquarters at Cleveland, Ohio, was announced in the October 5 issue of *Railway Age,* was born in Beverly, N. J., on October 6, 1876, and was graduated from Cornell University (B. A., 1897) and the University of Buffalo (LL.B. 1898). He was associated with the firm of Moot, Sprague, Brownell & Marcy, at Buffalo, N. Y., from 1897 to 1899, when he entered railroading in the legal department of the Erie. He served the U. S. Railroad Administration from 1918 to 1920, becoming general assistant to the Director General of Railroads in 1919. In 1920, Mr. Taylor was appointed general solicitor of the Erie, then, in 1931, general counsel. He became vice-president in 1937, and during the Erie reorganization, beginning in

Herbert A. Taylor

1938, he served as counsel for the trustees. Mr. Taylor was elected a director of the Erie in 1932 and continues to hold that office.

Frederick W. Green, vice-president and chief operating officer of the St. Louis Southwestern, has been named chief executive officer of the road, effective October 16, succeeding **Daniel Upthegrove,** whose retirement was reported, and career described, in the *Railway Age* of September 21, page 474, and whose death is reported elsewhere in this issue. Mr. Green is succeeded as chief operating officer by **K. M. Post,** previously general superintendent of the road at Tyler, Tex.

FINANCIAL, LEGAL AND ACCOUNTING

Willis T. Pierson, whose appointment as general counsel for the Erie, with headquarters at Cleveland, Ohio, was announced in the *Railway Age* of October 5, was born

Willis T. Pierson

in Clinton, Iowa, and was graduated from the University of Michigan with the degree of LL. B. He joined the Erie in 1907 as tax clerk in the land and tax de-

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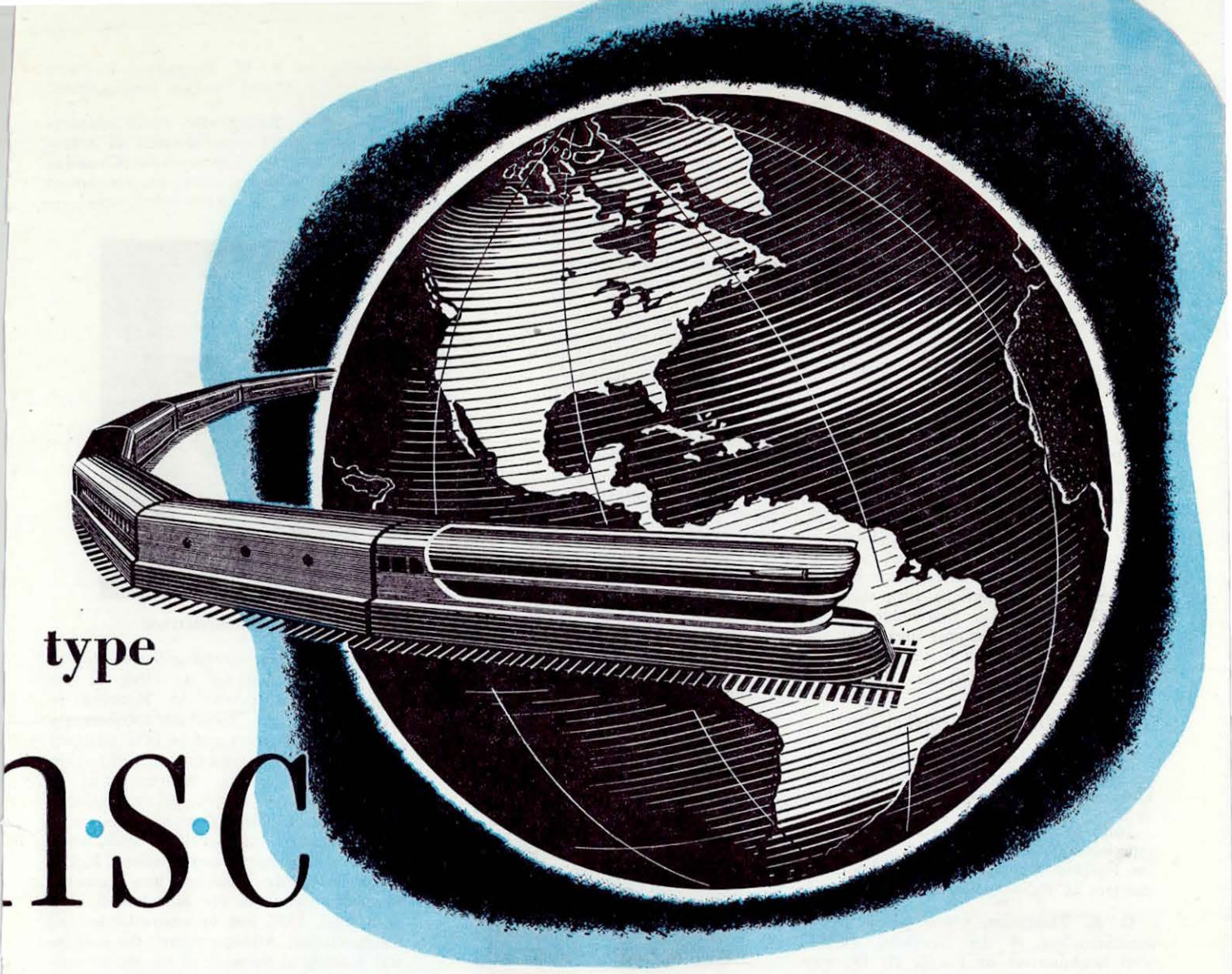

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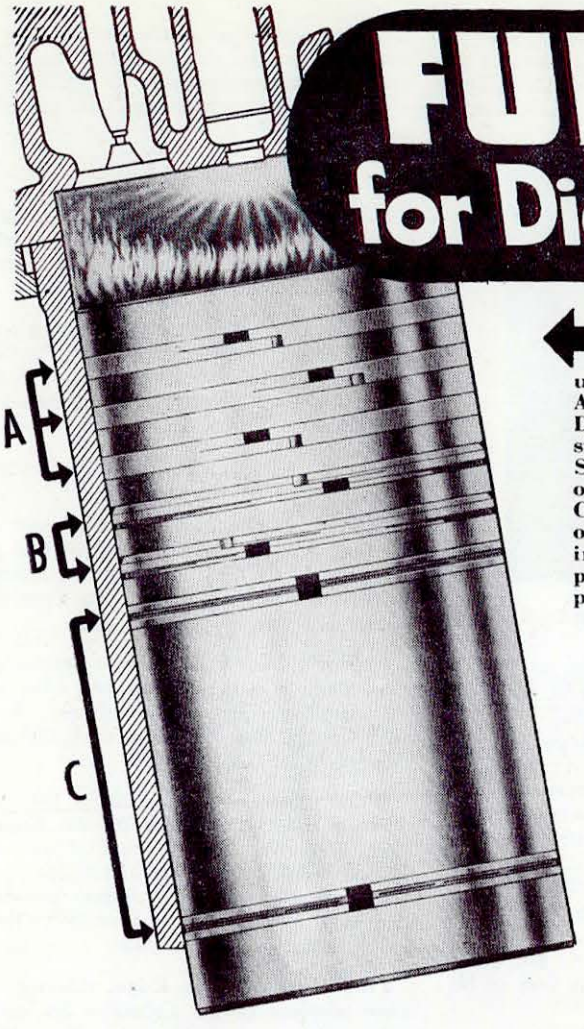
in Montreal, Que. Entering the employ of the Canadian National as clerk in the engineering department at Moncton in August, 1906, Mr. Robertson subsequently served as train agent and in 1913 returned to the engineering department, transferring back to the operating department as an employee in the general superintendent's office in 1914. He served as chief clerk to superintendent from 1916 to 1929, when he became assistant superintendent, Moncton division. Mr. Robertson was promoted to superintendent of the Moncton division in August, 1939, and to superintendent of transportation, Atlantic region, the post he was holding at the time of his recent promotion, in November, 1945.

Edward T. Watson, train master of the Union Pacific, with headquarters at Salina, Kan., has been promoted to assistant superintendent, with headquarters at Cheyenne, Wyo. Mr. Watson is succeeded by **R. A. Roberts,** safety agent, with headquarters at Kansas City, Mo. **Elgin Hicks,** superintendent of the Nebraska division, with headquarters at Omaha, Neb., has been transferred to Cheyenne, succeeding **E. H. Bailey,** who has been transferred to Omaha as superintendent.

R. D. Maloney, assistant superintendent, Lake Erie & Western district, New York, Chicago & St. Louis, has been promoted to superintendent, with headquarters as before at Muncie, Ind., succeeding **F. J. DeGrief,** who has retired. **Z. T. Komarek,** assistant to general manager at Cleveland, Ohio, has been appointed assistant superintendent at Muncie, to succeed Mr. Maloney. **E. B. Hunter,** trainmaster of the Cleveland division at Conneaut, Ohio, has been promoted to assistant to general manager at Cleveland. **C. E. Yarnell,** trainmaster of the Buffalo division at Conneaut has been transferred to the Cleveland division, with headquarters as before at Conneaut, succeeding Mr. Hunter. **R. A. Gleason,** terminal supervisor at Cleveland, has been appointed trainmaster of the Buffalo

News Department continued on next left-hand page

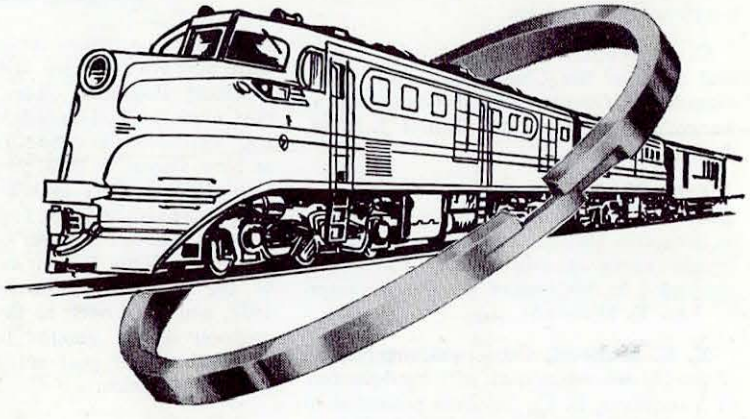
FULL POWER for Diesel Locomotives



A proved combination for a widely used 4-cycle Diesel. A—Hunt Spiller-Double Seal compression rings. B—Hunt Spiller-Double Seal one piece oil rings. C—HS-DS ventilated oil rings. Result: maximum compression; practically no oil pumping or carbon.

with

HUNT-SPILLER DOUBLE SEAL PISTON RINGS



PATENTED DOUBLE SEAL DESIGN

Greater compression and power because there is no blow-by at piston wall or ring groove. Double Seal rings give you these advantages along with all the strength of plain rings. And you are always sure of superior performance because Double Seal rings have had fourteen years of rigorous testing in practically every type of Diesel engine.

MADE FROM HSGI CASTINGS

Double Seal rings are precision machined from Hunt-Spiller *Air Furnace* Gun Iron with proper tension *cast* into the rings. Lower ring-to-wall pressure and tough, smooth-finished HSGI mean far less ring and cylinder wear.

FAST SERVICE ON ALL SIZES

With nearly a million rings for practically every purpose in stock at all times, you can always depend upon prompt service. Special rings made to specification within 3 to 14 days. *Address all ring inquiries to Double Seal Ring Co., P. O. Box 566, Fort Worth, Texas.*

HUNT-SPILLER MFG. CORPORATION

N. C. RAYMOND, *President* — E. J. FULLER, *Vice-Pres. & Gen. Mgr.*

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Canadian Representative: Joseph Robb & Co., Ltd., 5575 Cote St. Paul Rd., Montreal, P. Q.
Export Agents:
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Cylinder Bushings	Crosshead Shoes	Dunbar Sectional Type Packing
Cylinder Packing Rings	Hub Liners	Duplex Sectional Type Packing
Pistons or Piston Bull Rings	Shoes and Wedges	for Cylinders and Valves
Valve Bushings	Floating Rod Bushings	(Duplex Springs for Above
Valve Packing Rings	Light Weight Valves	Sectional Packing)
Valve Bull Rings	Cylinder Liners and Pistons	Cylinder Snap Rings
	for Diesel Service	Valve Rings, All Shapes

division, succeeding Mr. Yarnell. **P. J. Cantlin,** inspector of transportation, has retired after 56 years of service. **E. J. McKean** has been appointed terminal superintendent at Cleveland. **E. F. Peters,** assistant division superintendent at Conneaut, has been appointed terminal superintendent at Buffalo, N. Y. **R. S. Harms** has been appointed terminal superintendent at Chicago. The positions of assistant superintendent at Buffalo and of terminal trainmaster at Chicago and at Cleveland have been abolished.

TRAFFIC

C. W. McDaniel and **C. I. Allen** have been appointed general agents of the Atlantic Coast Line, with headquarters at Orlando, Fla.

B. E. Seale has been appointed general agent of the Atlantic Coast Line, with jurisdiction over territory between Moore Haven, Fla., and Lake Harbor, with headquarters at Clewiston.

C. J. Krupich has been appointed general agent of the Chicago, St. Paul, Minneapolis & Omaha, with headquarters at Fargo, N. D., succeeding **Daniel J. Shea,** deceased.

John T. Walsh, division freight and passenger agent of the Delaware & Hudson, at Scranton, Pa., has been promoted to coal freight agent at Albany, N. Y. He is succeeded in his former post at Scranton by **Leo E. Donohoe.**

K. E. McLeod, district passenger agent of the Canadian National, with headquarters at Vancouver, B. C., has been promoted to general passenger agent in British Columbia. He is succeeded by **S. M. Greene,** district passenger agent of the Alberta district. **M. J. Dupuis,** district passenger agent, Manitoba district, has been transferred to Edmonton, Alta. **E. G. Wickerson,** general agent at Regina, Sask., has been appointed district passenger agent, Saskatchewan district, with headquarters at Saskatoon. He succeeds **W. G. Connolly,** who has been transferred to Winnipeg, Man. **F. N. McKenzie,** chief clerk in the pasenger traffic department's general office at Winnipeg, has been promoted to district passenger agent, Manitoba district.

ENGINEERING & SIGNALING

W. H. Rochester, assistant chief engineer of the Atchison, Topeka & Santa Fe Coast Lines, at Los Angeles, Cal., has been appointed chief engineer of the road's Gulf Lines, with headquarters at Galveston, Tex., succeeding **W. W. Wilson,** who has retired. **H. E. Wilson,** division engineer at La Junta, Colo., has been appointed district engineer of the Los Angeles, Valley and Terminal divisions, with headquarters at Los Angeles.

George P. Elliott, whose appointment as district engineer of the New York, New Haven & Hartford, with headquarters at Boston, Mass., was announced in a recent issue of *Railway Age,* was born on July 25, 1891, at Clementon, N. J., and attended the Massachusetts Institute of Technology. He entered railroading in the signal and operating department of the Boston & Maine, serving during the summers of 1910 through 1914, then joined the New Haven in 1915 as rodman. He advanced

George P. Elliott

through the positions of inspector, transitman, and after service in the U. S. Army Railroad Engineers from 1917 to 1919, cost engineer and assistant engineer. He was appointed assistant track supervisor at New Haven in 1928, then assistant division engineer there in 1929, serving in the latter post also at New York and Hartford, then in 1937 at Boston. Mr. Elliott returned to New Haven as office assistant to the engineer maintenance of way in 1937, and went back to Boston as division engineer a few months later. He maintained the latter post until the time of his recent promotion.

MECHANICAL

O. A. Larson has been appointed Diesel locomotive inspector of the New York Central system, with headquarters at New York.

PURCHASES AND STORES

C. E. Bulkley, whose promotion to general storekeeper of the Missouri-Kansas-Texas, with headquarters at Parsons, Kan.,

C. E. Bulkley

was reported in the *Railway Age* of September 21, entered Katy service in 1919 as a stores laborer. Mr. Bulkley served in various capacities in the stores department, and in 1943 was promoted to chief clerk to purchasing agent at St. Louis, Mo., which position he held until his current promotion.

SPECIAL

R. Blake Russell has been appointed director of training for the New York, New Haven & Hartford, with headquarters at New Haven, Conn.

Maurice V. Dougherty has been appointed safety agent of the Union Pacific, with headquarters at Kansas City, Mo., succeeding **R. A. Roberts,** who has been transferred to Salina, Kan., as trainmaster.

OBITUARY

John C. Parker, assistant treasurer of the Boston & Maine, with headquarters at Boston, Mass., died suddenly at Salem, Mass., on October 21, while en route to work. He was 63 years of age.

Frederic Ward Butt, who retired in June, 1945, as assistant engineer, office of the equipment electrical engineer, New York Central System at New York, died on October 19, at the age of 69.

W. A. Gray, who retired in 1943 as chief of the tariff bureau of the Grand Trunk Western, after 50 years of service, died on October 21 in Chicago at the Augustana hospital. Mr. Gray joined the company as a clerk in 1893, at Hamilton, Ont., and went to Chicago in 1903.

Frederick William Edge, director of labor relations of the Canadian National, with headquarters at Montreal, Que., died from a cerebral hemorrhage on October 15, at Montreal, at the age of 61. Mr. Edge was one of the representatives of Canada at the International Labor Organization conference held in London, England, last winter to deal with questions affecting inland transport in Europe. He had been associated with the Canadian National System since 1911, having started as a locomotive fireman for the Grand Trunk at Coteau, Que.

Arthur P. Russell, retired vice-president of the New York, New Haven & Hartford, died on October 17 at Wyman House, Cambridge, Mass., after a brief illness, at the age of 75. Mr. Russell entered railroad service in 1888 as an office boy for the New York & New England. In 1898, upon the merger of that company with the New Haven, he continued in service and served successively as secretary to vice-president and general manager, chief clerk in the law department, assistant attorney and legislative counsel of the New Haven. Prior to 1918, Mr. Russell was in charge of the valuation of property and during the period of federal control he remained as federal counsel in charge of valuation and relations with the government. He later served as assistant general counsel and corporate counsel of real estate. At the termination of federal control in 1920, he was appointed vice-president of the New York, New Haven & Hartford at Boston, Mass., from which position he retired on March 1, 1943.

Current Publications

PAMPHLETS

The Practical Way to Handle Grievances. 58 pages. Published by the Labor Relations Institute, 1776 Broadway, New York 19. Price, $2.25.

This is a special report for management which outlines step by step procedures for handling employee grievances in the small as well as the large plant. The study reveals that over 40 per cent of the strikes and stoppages occurring a year were directly traceable to the failure of management and unions to properly use grievance machinery as a method for settling worker complaints.

Information Manuals for Employees; a Report Prepared for Metropolitan Group Policyholders. 48 pages, illustrations. Prepared by the Policyholders Service Bureau, Group Insurance Division, Metropolitan Life Insurance Company, One Madison Ave., New York 10. Free.

Considerable material that might assist chief executives and personnel managers in planning or revising a company information manual for employees is contained in this report. It includes a number of excerpts from various such company publications and is based on an analysis of 132 manuals of 119 companies in the United States and Canada. One section of the report is devoted to the essential contents of an information manual—specifically, how the material may be organized and the handbook introduced, suggestions on its table of contents and index, the story of the company, and on other matters for the instruction and enlightenment of the employee. This section also includes a list of contents of 130 information handbooks. Another section of the report examines the steps taken to make the manual attractive and readable, in terms of appearance and size, the style in which it is written, the title and the cover. Suggestions on methods of distributing the handbook are also included.

Preliminary Report on Statistics of Steam Railways in Canada, 1945. Nine pages. Prepared by the Department of Trade and Commerce, Dominion Bureau of Statistics, Transportation and Public Utilities Branch, Ottawa, Ont. Price, ten cents.

Contains preliminary statistics for the year 1945 on the income account, train-mileage, tons and passengers carried and car-mileage by individual roads, and statistics on employees and their compensation for all roads grouped together.

Statistics; Railways, Roads, Canals. 32 Pages. Published by the London & North Eastern Railways, Dorset square, London, N. W. 1, England. Free.

Prepared primarily for the use of London & North Eastern officers, this little booklet will be of interest to anyone interested in British railway statistics. Complete statistics for the war-time period are not available, but such as are available are included, as well as numerous comparisons of pre-war and post-war operations of all the main line railways and the London & North Eastern in particular.

New and larger portables with the original Squeez-Grip valve – the Navy Standard – that made C-O-Two world famous in the fire fighting field. These new portables have more punch, weigh less and have a longer effective discharge. The completely insulated swivel tube and discharge horn is an integral part of the Squeez-Grip valve. Easy to operate – one hand control – squeeze to open, release grip to close. C-O-Two kills flammable liquid and electrical fires in seconds with clean, dry, non-damaging, non-freezing and non-deteriorating carbon dioxide gas. C-O-Two will not harm machinery, equipment, material, fabrics, finishes or food. No after-fire-mess to clean up. C-O-Two is modern fire protection. Now you get additional C-O-Two protection at no extra cost.

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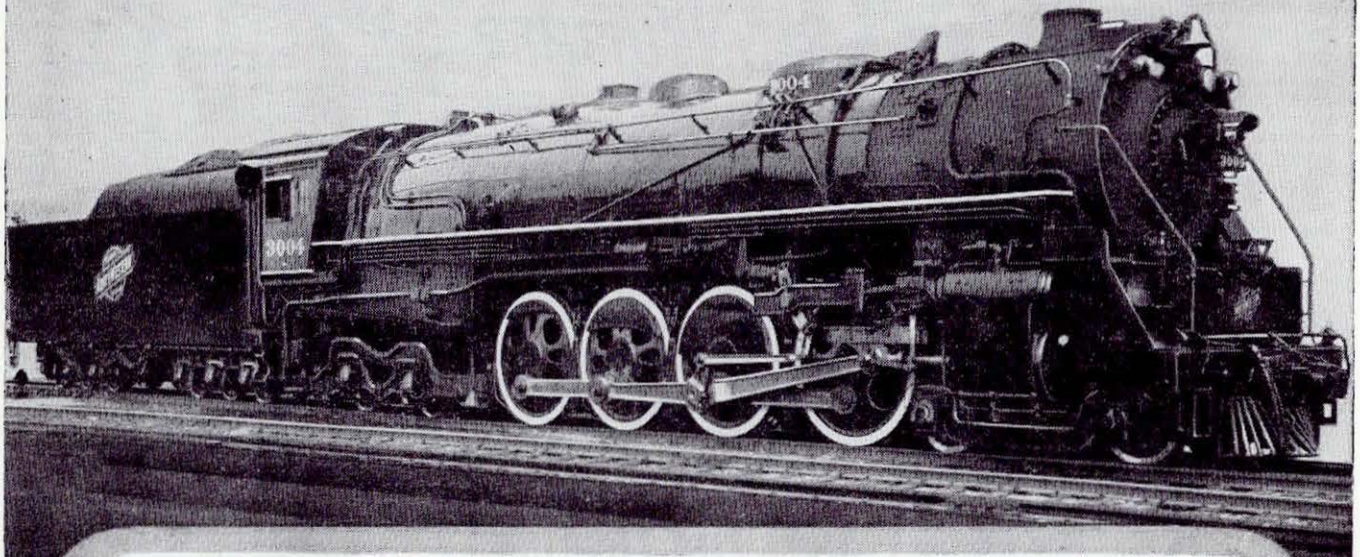
STANDARD STOKERS

Always Dependable For

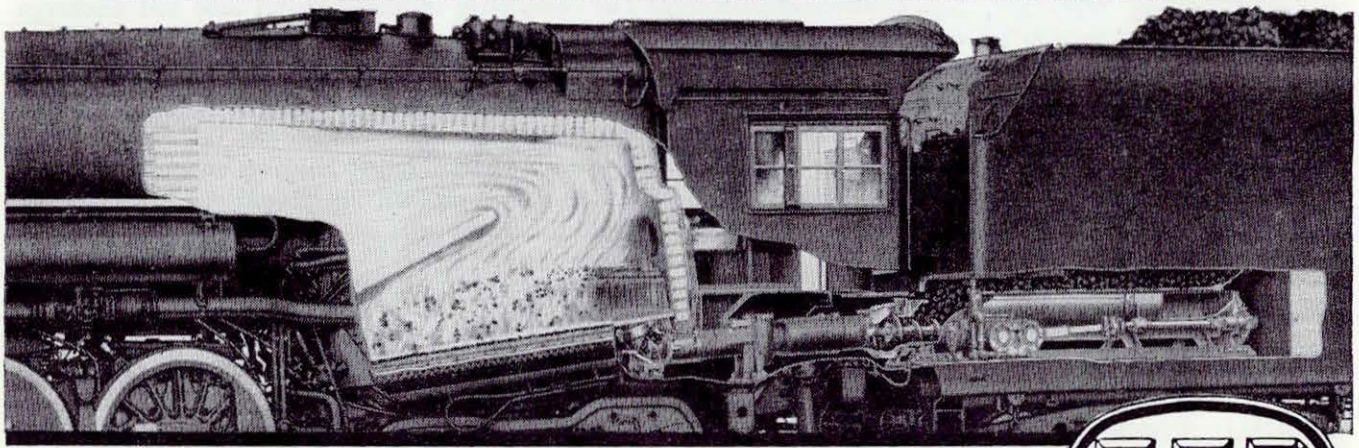
NEW POWER • MODERNIZED POWER • EXISTING POWER



North Western locomotive 3004 is the first of a group of 4-8-4's to be rebuilt and modernized in the Railroad's shops - - These dual-purpose locomotives are well adapted to meet the service requirements for modern, high-speed freight and passenger traffic.

Standard MB Stokers, an integral part of these locomotives when originally built, have also been modernized - - and will continue to make available the necessary power for producing greater hauling capacity at sustained high speeds.

METHOD OF FIRING WITH A STANDARD MB STOKER



THE STANDARD STOKER COMPANY, INC

NEW YORK • CHICAGO • ERIE • MONTREAL

SSC

REG. U. S. PAT. OFFICE

ELECTRO-MOTIVE PRESENTS

FOR HEAVY-DUTY FREIGHT,
HEAVY-DUTY FAST PASSENGER AND
MOUNTAIN-TYPE PASSENGER SERVICE

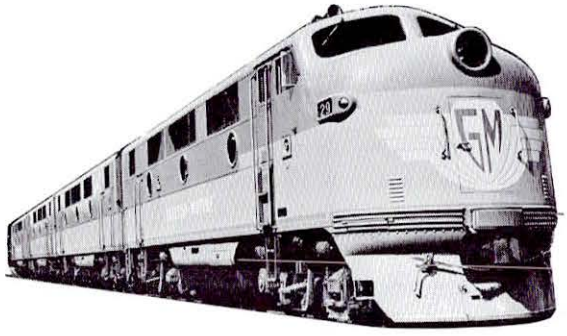
GENERAL MOTORS LOCOMOTIVES

ELECTRO-MOTIVE DIVISION

GENERAL MOTORS LA GRANGE, ILL.

the F

A LOCOMOTIVE THAT REALLY COVERS BOTH HEAVY-DUTY FREIGHT,



For many years the railroads have felt a great need for a locomotive with a performance range so wide that it could be equipped to serve successfully as either a heavy-duty fast passenger or heavy-duty freight locomotive or, in some cases, as a combination of both.

There has been need of a locomotive which, because of its versatility and range, could reduce the multiplicity of locomotive models — at the same time have such high continuous tractive power that it would eliminate need of helpers in many districts.

That wide-range locomotive is now here — the F3 — built by Electro-Motive.

This locomotive offers a wider range of services than any other in the world. Its range is so broad that with proper gear ratio it can be used to drag heavy-tonnage freights or take over heavy-duty fast passenger schedules.

It can do all this and still outperform locomotives especially built for these individual services — do it economically, too.

For here is a speed range up to 102 miles per hour for passenger service and from 50 to 65 miles per hour for heavy-freight duty—with innumerable variations between these ranges. It provides an honest 1500 propulsion horsepower per unit, with plenty of additional power for auxiliaries.

Here again is a demonstration of how Electro-Motive meets railroading conditions as they exist and produces the power to fit the railroad — rather than trying to alter the railroad to fit the power.

3

HEAVY-DUTY PASSENGER AND MOUNTAIN-TYPE PASSENGER SERVICE

Specifically, these things can be said about the F3 —

It begins by offering three important benefits to railroads:

1. Amazing range and flexibility.
2. Uniform design for both passenger and freight service.
3. Provides for greatly simplified maintenance — offers more readily available interchangeable parts.

The F3 is "more locomotive for the money" on many other counts, too.

It delivers more of its rated horsepower at the rail than any other locomotive available and proved.

Capable of being used in units up to four at a time, the F3 has a power range from 6000 horsepower for four units, down to 1500 horsepower for the single unit. F3 units may also be employed with other existing General Motors Diesel units — for example, an F3 may be coupled to two FT and F2 "A" and "B" units.

The F3 has piled up over 110,000 miles of successful demonstration since it went into service on August 2, 1945. While 3000 miles is the recommended inspection period, the F3 on a very tight schedule of demonstrations rolled up over 60,000 miles before it was even called in for a shop "look-over."

* * *

The F3 has met all kinds of operating conditions on prominent lines such as The Alton R.R.; The Atchison, Topeka & Santa Fe Ry. System; Baltimore & Ohio R.R. System; Bangor & Aroostook R.R. Co.; Boston & Maine R.R.; The Central R.R. Co. of New Jersey; Chicago, Burlington & Quincy R.R. Co.; Chicago & North Western Ry. Co.; The Chicago, Rock Island & Pacific Ry. Co.; The Delaware, Lackawanna & Western R.R. Co.; The Denver & Rio Grande Western R.R. Co.; Erie R.R. Co.; Gulf, Mobile & Ohio R.R. Co.; Maine Central R.R. Co.; Missouri-Kansas-Texas R.R. Co.; The New York, New Haven & Hartford R.R. Co.; Southern Ry. System; Southern Pacific Co.; The Texas & Pacific Ry. Co.; Union Pacific R.R. and Wabash R.R. Co.

Electro-Motive continues to build the improved General Motors Streamliner Passenger Locomotive for ultra-high speed operation of light-weight trains, plus the 1000 and 600 horsepower switching locomotives which set the pattern for the current movement to 100 per cent dieselization of yards.

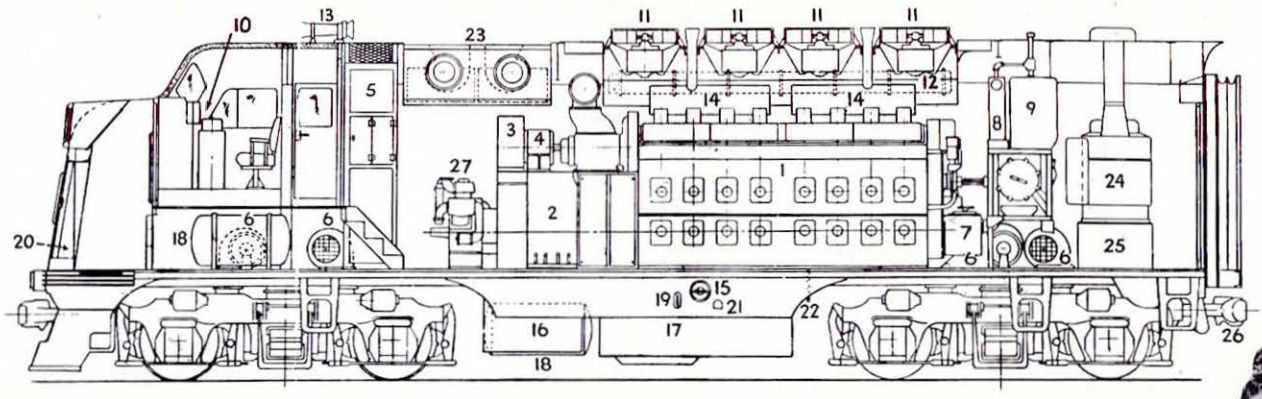
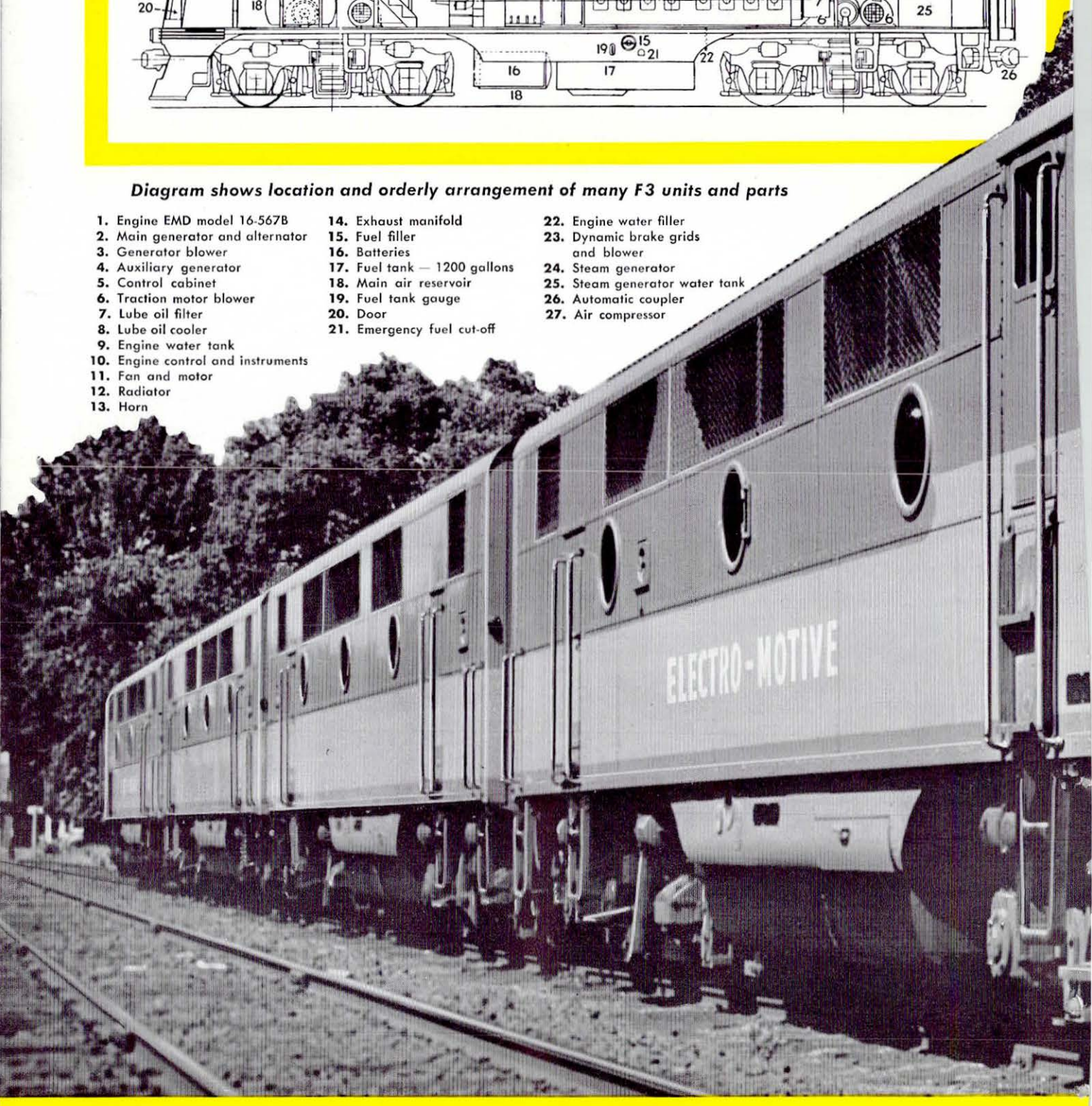


Diagram shows location and orderly arrangement of many F3 units and parts

1. Engine EMD model 16-567B
2. Main generator and alternator
3. Generator blower
4. Auxiliary generator
5. Control cabinet
6. Traction motor blower
7. Lube oil filter
8. Lube oil cooler
9. Engine water tank
10. Engine control and instruments
11. Fan and motor
12. Radiator
13. Horn
14. Exhaust manifold
15. Fuel filler
16. Batteries
17. Fuel tank — 1200 gallons
18. Main air reservoir
19. Fuel tank gauge
20. Door
21. Emergency fuel cut-off
22. Engine water filler
23. Dynamic brake grids and blower
24. Steam generator
25. Steam generator water tank
26. Automatic coupler
27. Air compressor



- **BACKED BY MILLIONS OF MILES OF EXPERIENCE**
- **PRODUCT OF YEARS OF ADVANCED ENGINEERING**
- **110,000 MILES OF ACTUAL ON-THE-RAIL OPERATION**

GENERAL MOTORS
LOCOMOTIVES

the F3

FOR COMBINED HEAVY-DUTY FREIGHT AND HEAVY-DUTY FAST PASSENGER SERVICE

the F

MORE PERFORMANCE-PROVED NEW FEATURES

NOT only does the F3 offer the widest range of service in both passenger and freight hauling, it also has more new features than any other locomotive. Yet it is not a "radical departure."

For the underlying design of the F3 is the remarkably efficient, widely used, long-proven General Motors freight locomotive. Underframes have been redesigned to provide equal overhang and greater length between truck centers. An economical rearrangement of equipment and a small increase in car-body length not only provide far greater accessibility for adjustment and maintenance but also permit installation of steam heating generators and water tanks. Thus, the inherent advantages of this type of locomotive have been made applicable to heavy-duty fast passenger as well as freight service. Besides this, the F3 incorporates many advanced engineering features, some of which have been under development and test for the past five years. Distinct advantages in both operation and maintenance accrue in either service.

Here are just a few of the features that make the F3 "more locomotive for the money."

BALANCED POWER PLANT. Engine, generator, controls and traction motors in General Motors locomotives long have been designed in a *balanced* combination which utilizes *full* propulsion horsepower over the *full* speed range of the locomotive. This principle is faithfully followed in the F3. One of the outstanding new features of the *balanced* power plant of the F3 is the

NEW AND LARGER MAIN GENERATOR – which not only permits utilization of more of the inherent horsepower in a 16-567 General Motors Diesel engine but also, for the first time in a Diesel locomotive, produces both AC and DC in the same machine. It produces sufficient AC to supply auxiliaries plus an honest 1500 DC propulsion horsepower *over the full speed range*. It is surprisingly compact, more accessible for maintenance and has longer brush life. All of its design features are based upon experience gained in the many billions of ton miles of performance of previous General Motors locomotives.

AC DRIVE ON AUXILIARY EQUIPMENT. No vee belts. No extension shafts. Positive traction motor cooling. This AC feature – first time incorporated throughout a locomotive – is made possible by the compact dual-purpose generator.

THE AC MOTOR DRIVES make many innovations possible, such as –

New-type engine-cooling system with full automatic control and with individual control of cooling fans.

Engine-cooling fans and blowers for traction motors in the most efficient locations.

Exhaust of hot air is upward over the locomotive center, which eliminates blow-back to trailing units.

The AC motors are inherently reliable – no brushes, no commutators.

REARRANGEMENT OF EQUIPMENT. The startlingly clean, simple, uncluttered appearance of the engine

3 THAN IN ANY OTHER LOCOMOTIVE

room reflects the tremendous experience and engineering ingenuity back of the relocation and regrouping of equipment which not only provides more efficient locomotive operation but also considerably more and handier working space for maintenance operations.

NEW AIR BRAKE SCHEDULE. This new air brake schedule — instigated by Electro-Motive — was developed through five years of engineering. For the first time the same basic air brake schedule can be used in conjunction with other features such as — automatic train control, electro-pneumatic portion of the air brake schedule and dead man control. Moreover, the F3 air brake schedule works agreeably with that on earlier Electro-Motive locomotive units.

NEW ELECTRICAL AND PLUMBING STACKS. Here the sub-assemblies like the electrical control cabinets and plumbing stacks are in easy-to-get-at places. Accessible from all four sides. In addition to these large assemblies there are numerous smaller assemblies, such as the air brake equipment rack — which are easily removable for repair on the bench.

DYNAMIC BRAKE GRIDS and attendant machinery are all in one easily removed hatch in the roof of the locomotive. Also easy to get at for inspection and maintenance.

NEW TRANSITION METER with short time overload ratings. This has been greatly simplified, making it easier for the engine man to read and understand. It also provides the engine man with a device with which he may definitely check whether the train load is excessive for grade conditions.

GENERAL MOTORS TWO-CYCLE DIESEL ENGINE. The 16-cylinder 567 series General Motors Diesel engine, which has earned an unparalleled international reputation for rugged dependability, with high output in billions of ton miles of performance in General Motors freight locomotives since 1940, as well as in many U. S. Navy vessels throughout the war, powers the F3.

TWO SIZES OF STEAM GENERATORS—greatly improved types — more reliable and easier to maintain.

NEW STYLE ENGINE GOVERNOR. Better synchronization of speed and power output is possible. It incorporates the electro-pneumatic throttle control and load regulator pilot valve. Automatic shutdown, when lube oil pressure runs low, is part of this device.

FOUR-WHEEL TRUCKS that go anywhere and take any maximum degree curve that the ordinary freight car will take. Electro-Motive's outside swing-hanger design and balance between elliptical and helical springs assures unusual stability at high speeds — a range of usefulness in a single design of truck in keeping with the general characteristics of this locomotive.

PLUS — all the traditional high reliability, high availability and low operating and maintenance costs you expect of a General Motors Diesel — along with extremely wide range of service.

OPERATING CHARACTERISTICS WITH AVAILABLE GEAR COMBINATIONS

OPTION	1	2	3	4	5	6	7	8
GEARS	65-12	62-15	61-16	60-17	59-18	58-19	57-20	56-21
RATIO	5.417	4.135	3.81	3.53	3.28	3.05	2.85	2.66
CONT. T.E.*	42,500	32,500	30,000	27,000	25,000	23,750	22,500	21,000
MAX. SPEED	50	65	71	77	83	89	95	102

*Continuous tractive effort is given per 1500 H.P. unit.

the F3

Engineered and built in America's most modern plant devoted 100 per cent to production of Diesel locomotives

The Electro-Motive plant at La Grange, Illinois — where the versatile F3 is built — covers 54 acres. It is the birthplace of modern passenger and freight Diesels.

The entire plant is specifically laid out for the efficient production of Diesel locomotives. *Only* Diesel locomotives are built here, and they are built here virtually complete.

No other locomotive plant in the world has so much modern and specialized machinery and equipment. Many types of manufacturing equipment — the tools used on these valuable machines — and the advanced manufacturing methods have no counterpart elsewhere in the industry.

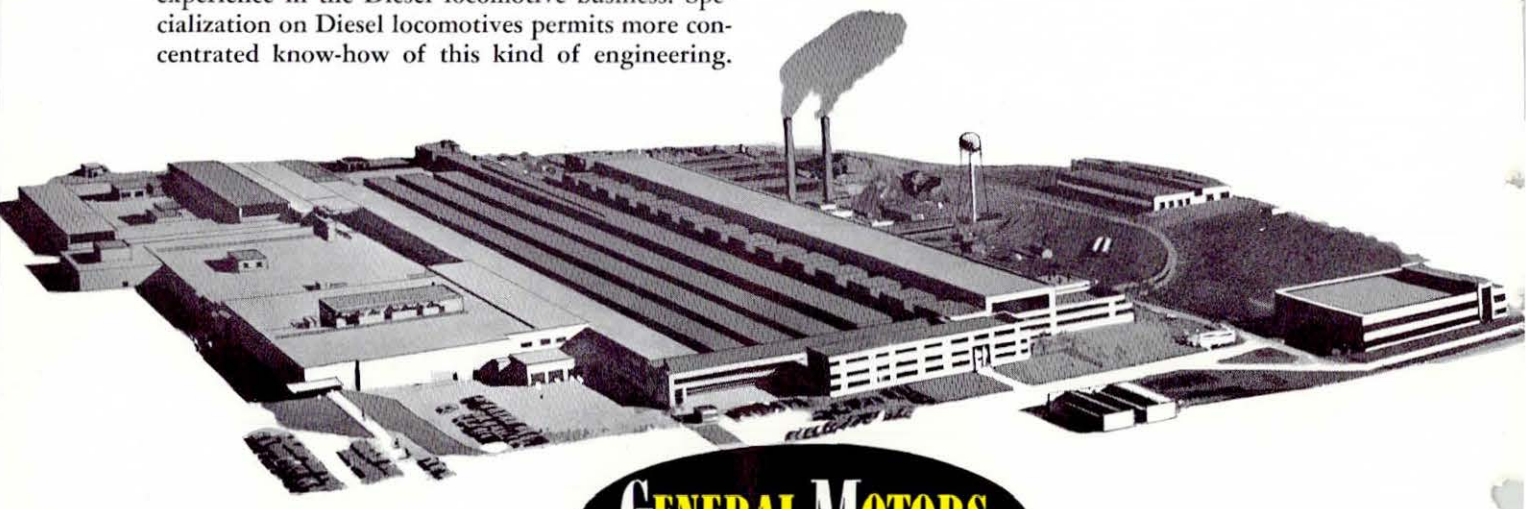
On the manpower side — here is the longest total experience in the Diesel locomotive business. Specialization on Diesel locomotives permits more concentrated know-how of this kind of engineering.

Electro-Motive's own research is supplemented by all the vast research facilities of General Motors.

Electro-Motive craftsmen, too, with only three basic types of Diesel locomotives to attend to, naturally have acquired a more intimate knowledge of their jobs.

Behind all this is unmatched experience gained in designing and building more than 3,100,000 horsepower in Diesel locomotives for more than 80 American railroads — locomotives which have set all-time records for performance.

This then, is where the F3 is built. In some measure it explains its quality manufacture and why it is the outstanding and most widely-usable locomotive in modern railroading.



GENERAL MOTORS LOCOMOTIVES

ELECTRO-MOTIVE DIVISION

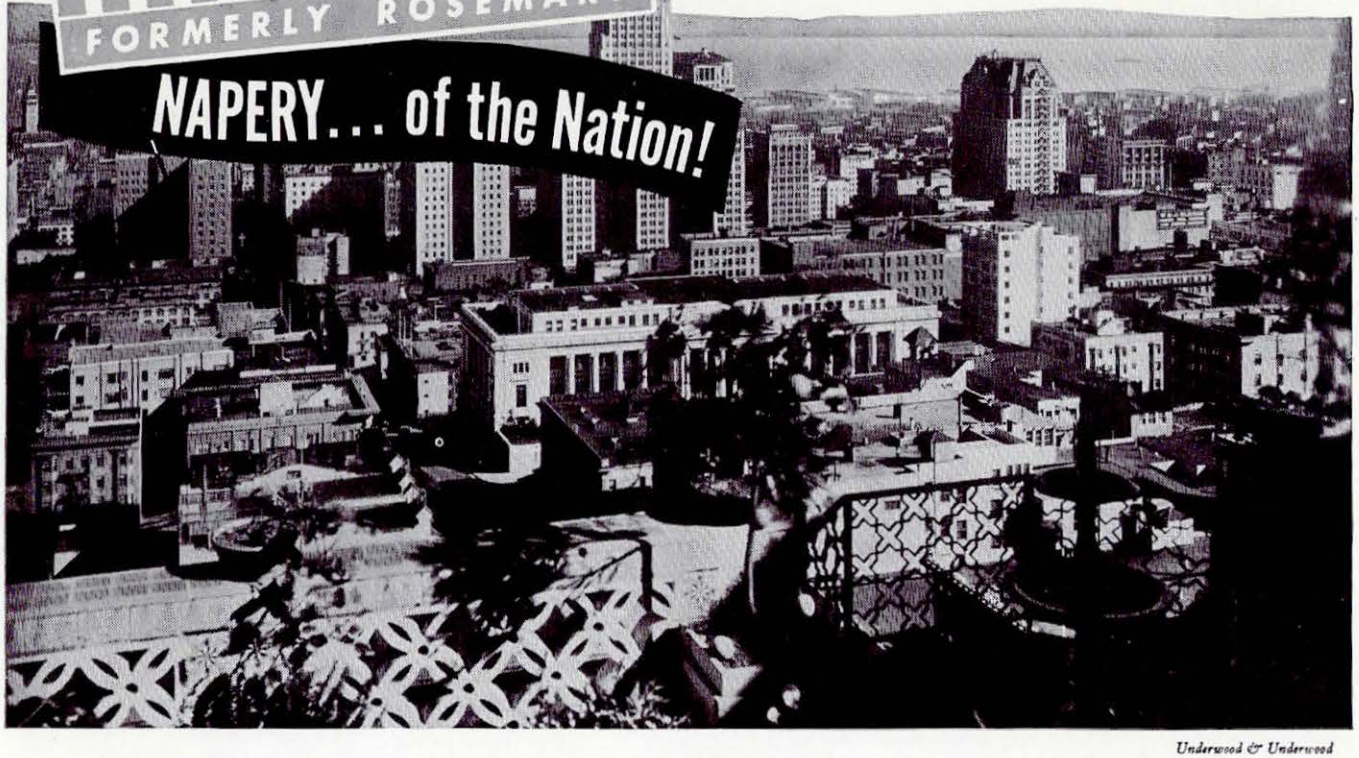
GENERAL MOTORS LA GRANGE, ILL.

Simtex

FORMERLY ROSEMARY

NAPERY... of the Nation!

Beyond San Francisco's towering skyline lies one of the world's finest harbors.



Underwood & Underwood

In California's beautiful city by the Golden Gate, Simtex Tablecloths, Napkins and Tray Covers are preferred by world-famous hotels, clubs, hospitals and railroads. San Francisco's hosts, like those of every city in the nation, recognize the enduring beauty and longer wear assured by "balanced construction," cross-stitched hems, and the permanent, lustrous Basco finish. Accentuated by smart patterns or individual crests, these features make Simtex Cloths the . . .

"NAPERY OF THE NATION!"

Partial list of users of Simtex-Basco napery in San Francisco:

HOTELS

Bellevue
Californian
Cathedral Apt.
Cliff
El Cortez
*Fairmont
Alexander Hamilton
*Mark Hopkins
Huntington Apt.
Palace
Plaza
Stewart
St. Francis
Sir Francis Drake
Whitcomb

HOSPITALS

Dante
St. Francis
St. Mary's
Stanford University

CLUBS

Fraternity
Olympic
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RAILROADS

*Southern Pacific
*Western Pacific

** Indicates users of crested napery.*

Simtex napery is distributed exclusively through leading Wholesalers and Linen Supply Houses.

Next to Good Food, People Prefer CLOTH-COVERED TABLES

Cloths • Napkins & Damasks

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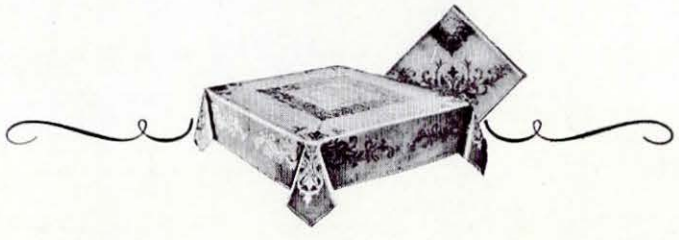
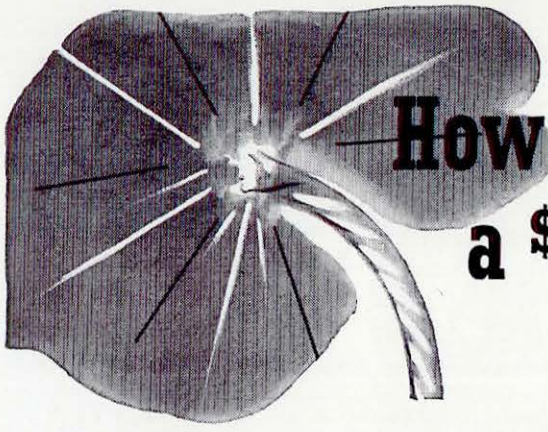
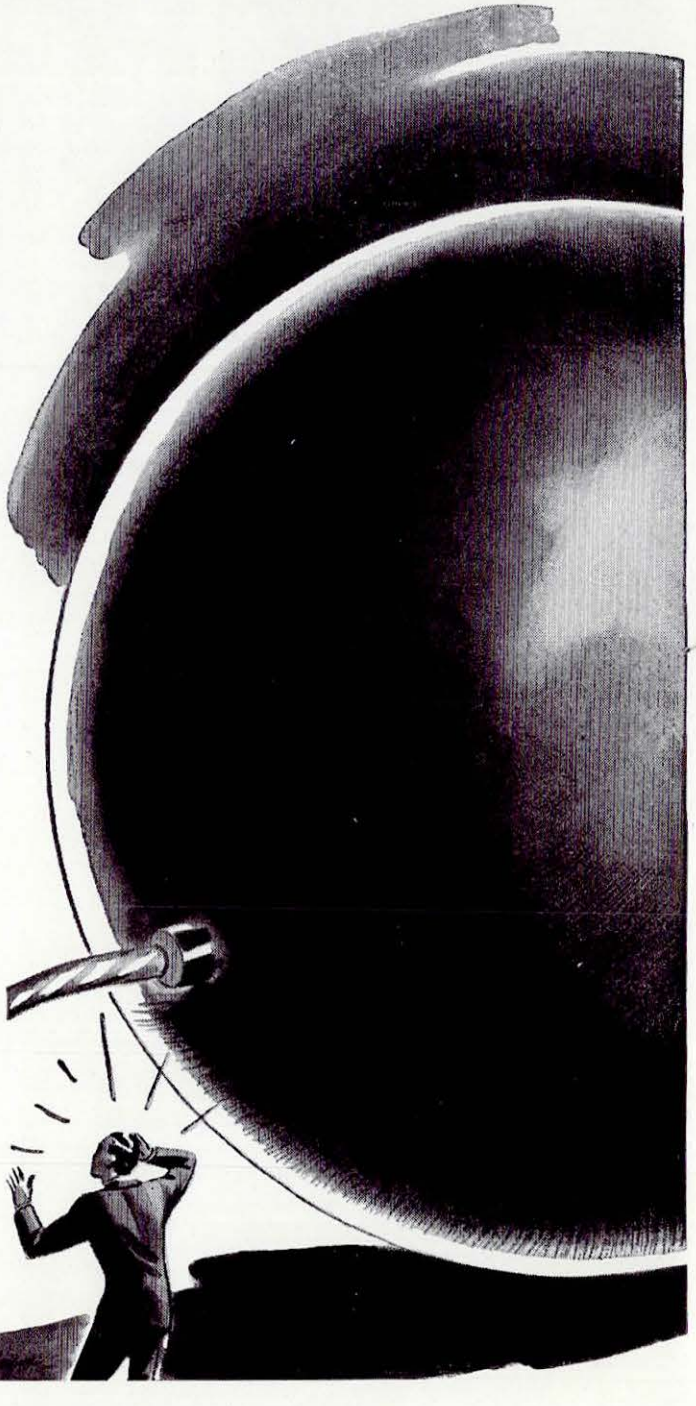
SIMTEX MILLS

(formerly Rosemary Sales)
Division of Simmons Co.
40 WORTH ST., NEW YORK 13, N. Y.





How to Pull the Fuse from a $20,000,000,000 Bomb



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This bomb is $20,000,000,000 surplus national income.

Authorities estimate that this year's total income will be $155,000,000,000—personal taxes will total $15,000-000,000—consumer goods and services will absorb no more than $120,000,000,000. This leaves $20,000,000,000. Even if banks and insurance companies absorb one-fifth of the surplus (as they did in 1945), there will still remain $16,000,000,000 that could be used to bid up prices.

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THE PEACETIME PAYROLL SAVINGS PLAN—

A booklet, published for key executives by the Treasury Department, containing helpful suggestions on the conduct of your payroll savings plan for U. S. Savings Bonds.

THIS TIME IT'S FOR YOU

A booklet for employees . . . explaining graphically how the payroll savings plan works . . . goals to save for, and how to reach them with Savings Bonds.

Are you using these booklets?

If not, or if you want additional copies, just ask your State Director of the Treasury Department Savings Bonds Division.

The Treasury Department acknowledges with appreciation the publication of this message by

RAILWAY AGE

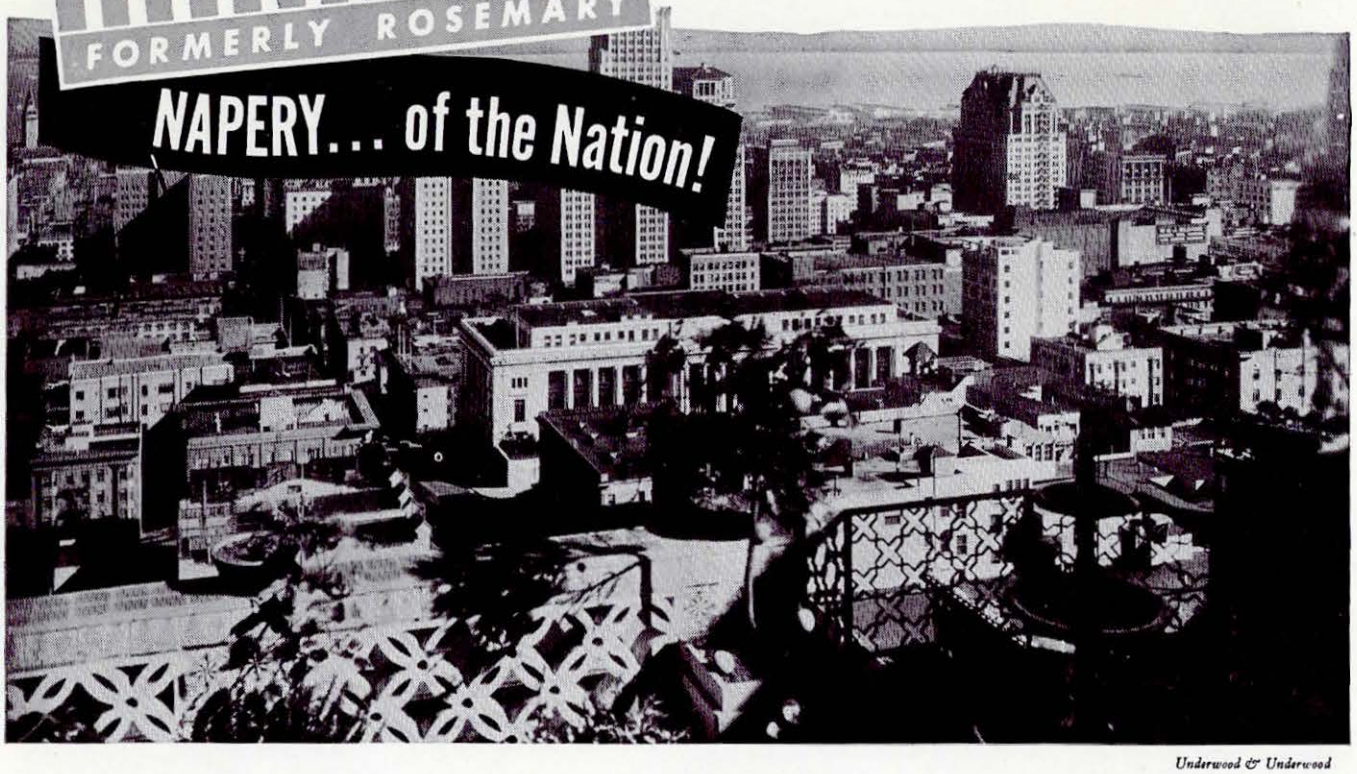
This is an official U. S. Treasury advertisement prepared under the auspices of the Treasury Department and the Advertising Council

Simtex

FORMERLY ROSEMARY

NAPERY... of the Nation!

Beyond San Francisco's towering skyline lies one of the world's finest harbors.



Underwood & Underwood

In California's beautiful city by the Golden Gate, Simtex Tablecloths, Napkins and Tray Covers are preferred by world-famous hotels, clubs, hospitals and railroads. San Francisco's hosts, like those of every city in the nation, recognize the enduring beauty and longer wear assured by "balanced construction," cross-stitched hems, and the permanent, lustrous Basco finish. Accentuated by smart patterns or individual crests, these features make Simtex Cloths the . . .

"NAPERY OF THE NATION!"

Partial list of users of Simtex-Basco napery in San Francisco:

HOTELS

Bellevue
Californian
Cathedral Apt.
Clift
El Cortez
*Fairmont
Alexander Hamilton
*Mark Hopkins
Huntington Apt.
Palace
Plaza
Stewart
St. Francis
Sir Francis Drake
Whitcomb

HOSPITALS

Dante
St. Francis
St. Mary's
Stanford University

CLUBS

Fraternity
Olympic
Union League

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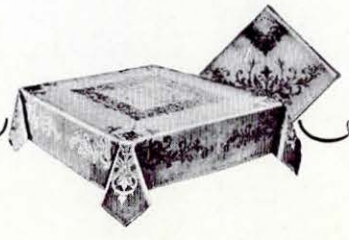
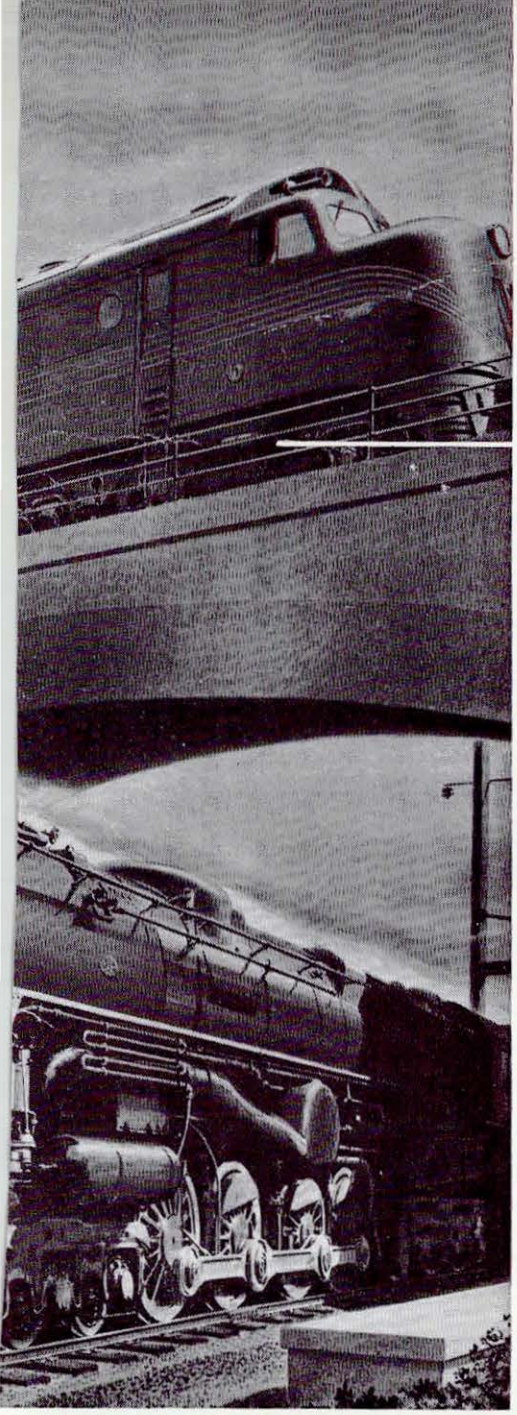


BALDWIN

BLW
THE BALDWIN GROUP

LOCOMOTIVES



newness

IN LOCOMOTIVES MUST BE MORE THAN SKIN DEEP

The new locomotives needed for tomorrow's advances in rail transportation can't be produced by draping a streamlined shell over an old model. This newness must be more than skin deep.

Here are four Baldwin locomotives for the Pennsylvania Railroad illustrating what such newness really means.

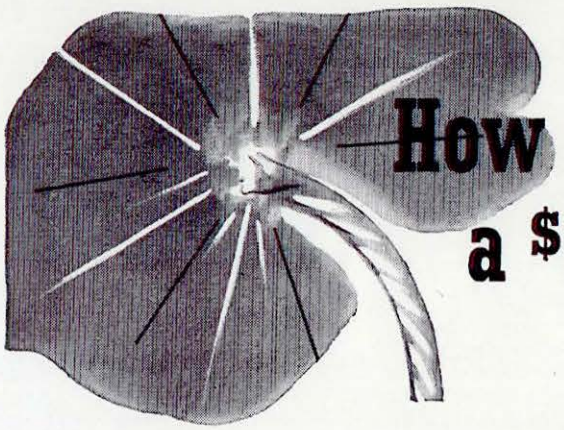
• • • 6000-hp. Diesel Electric, of a new design that packs more power in a single cab than any similar unit in the world.

• • • the T-1, that showed 46% higher drawbar hp., 40% higher indicated hp., lowest water rate in 40 years of testing at the Altoona shops, and over 90% mechanical efficiency at all speeds.

• • • a modern electric locomotive, most recent of a chain that Baldwin jointly pioneered and has been continuously developing for many years.

• • • the steam turbine locomotive—an entirely new departure which has recently completed several months of stand-out service on mainline runs.

Now, as for over a century, Baldwin is helping the railroads to translate the new ideas of today into the practical achievements of tomorrow. The Baldwin Locomotive Works, Phila. 42, Pa., U.S.A. Offices: Philadelphia, New York, Chicago, St. Louis, Washington, Boston, San Francisco, Cleveland, Detroit, Pittsburgh, Houston, Birmingham, Norfolk.



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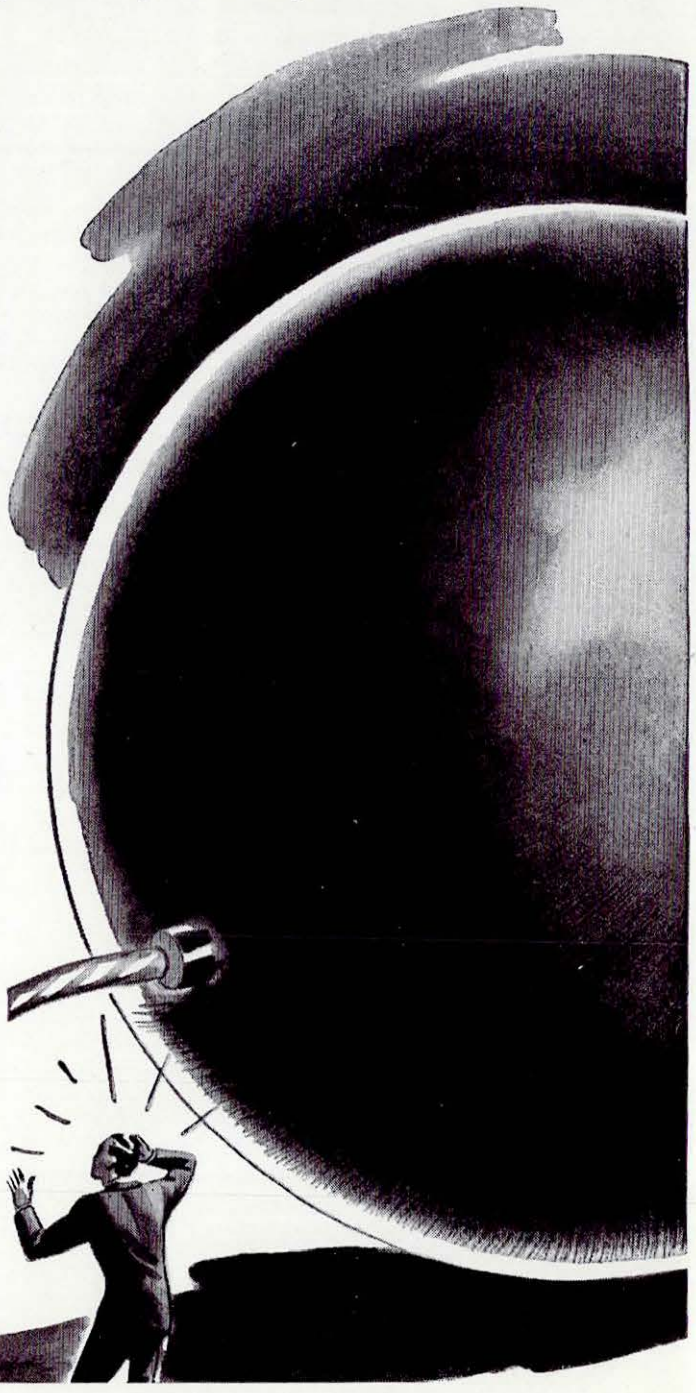

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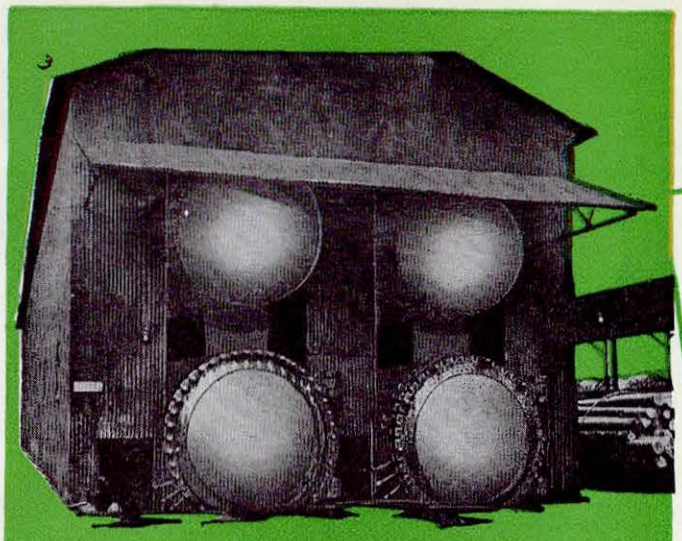

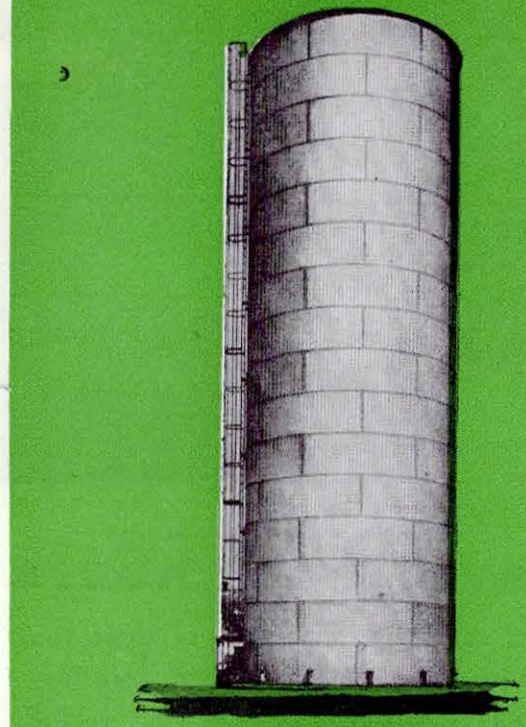

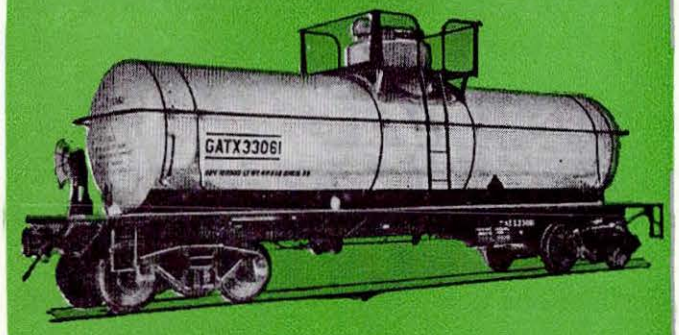

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- **Creosoting cylinders**
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- **Standpipes**
- **Steel stacks**
- **Bins**
- **Water tanks**

. . . *And other items*

—some built to customers' specifications, some designed by us as well as fabricated and erected.

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RACOR
TRADE MARK REGISTERED

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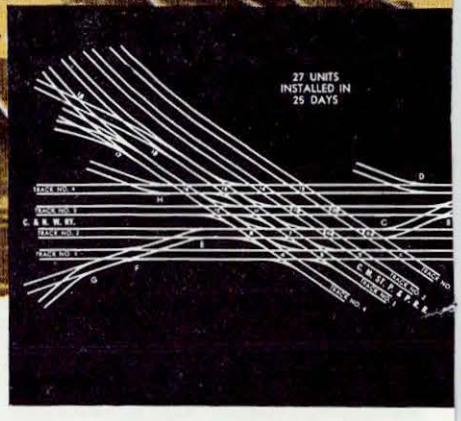


C. & N. W. RY. and C. M. St. P. & P. R. R. Crossing Intersection
Tower A-2, Western Avenue, Chicago

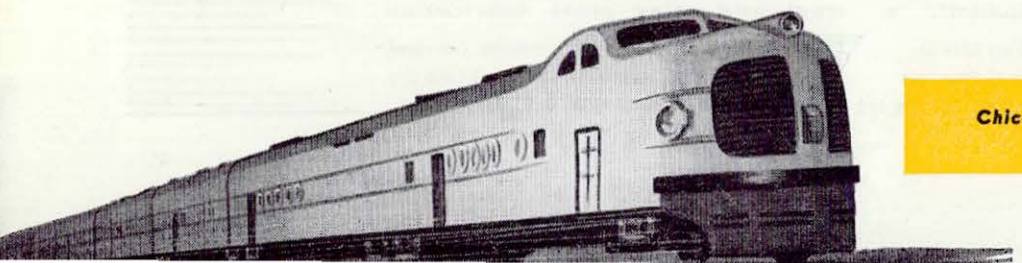
650 train movements every 24 hours

This unusual all RACOR installation is an excellent example of RACOR'S engineering ingenuity in the design and manufacture of special trackwork.

Tower A-2 crossing provides routing of all trains of each road over any of their four tracks with complete interchange facilities—in all, 650 train movements per day including through trains, freight movements and peak hour suburban service.

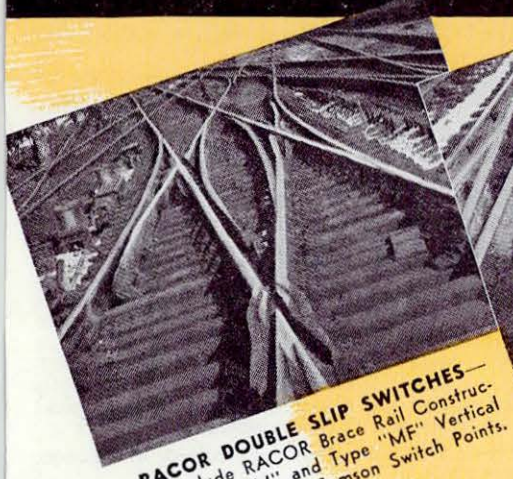
27 units installed in 25 consecutive days

Just eighteen months ago the engineering departments of both C. & N. W. and C. M. St. P. & P. railroads started plans for the renewal of track at this crossing to provide heavier construction, improved alignment and reduced maintenance. To minimize delays in traffic, each unit was completely preassembled on 7″ x 9″ creosoted ties with all plates, switch rods, switch machines, joint bars and bonding in place, ready to make a direct connection with adjacent units. Better than one unit a day was installed—an exceptional example of engineering efficiency—a salute to everyone participating in the construction, installation, and handling of traffic during this 36,413 man-hour project.

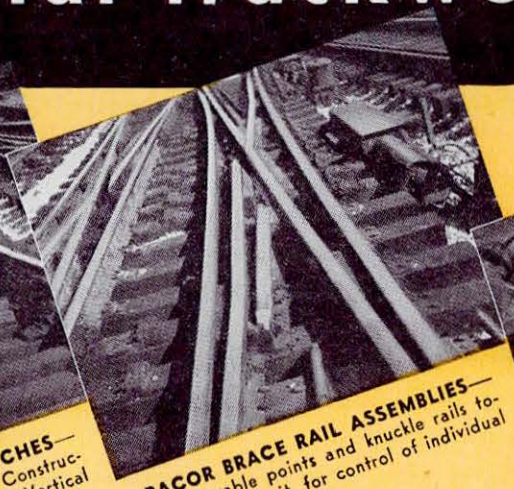


Chicago & Northwestern Ry. Streamliner
City of Los Angeles

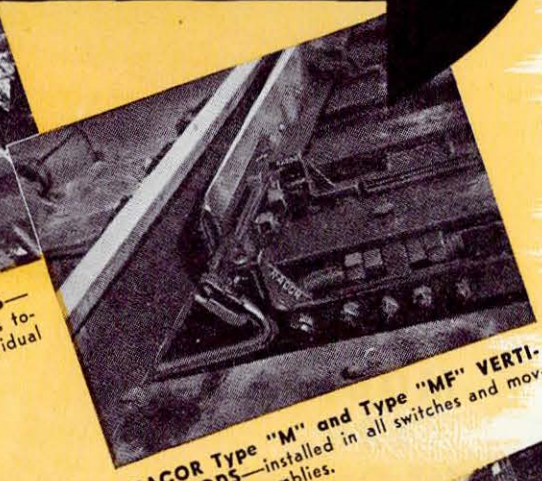
RACOR ENGINEERING
in special trackwork design



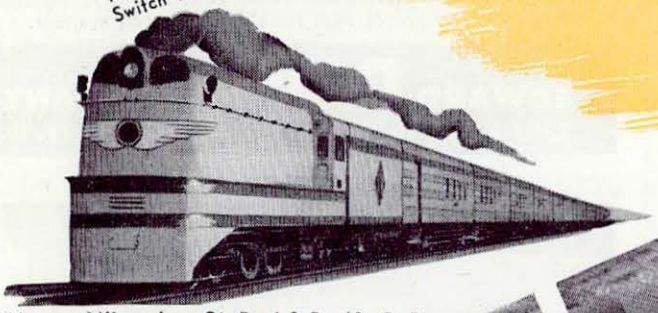
RACOR DOUBLE SLIP SWITCHES—all include RACOR Brace Rail Construction Type "M" and Type "MF" Vertical Switch Rods, and Samson Switch Points.



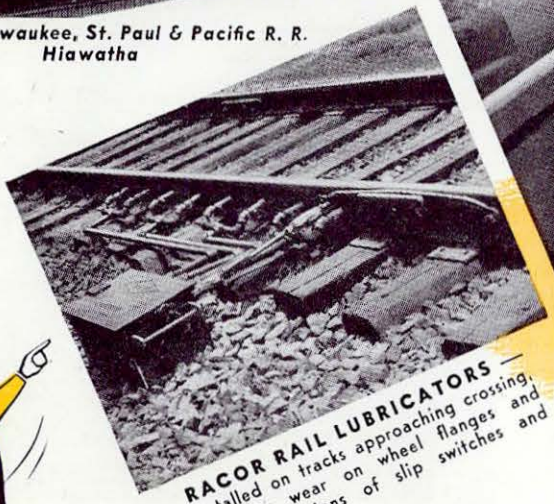
RACOR BRACE RAIL ASSEMBLIES—ties movable points and knuckle rails together as a unit, for control of individual creepage of parts.



RACOR Type "M" and Type "MF" VERTICAL RODS—installed in all switches and movable point assemblies.

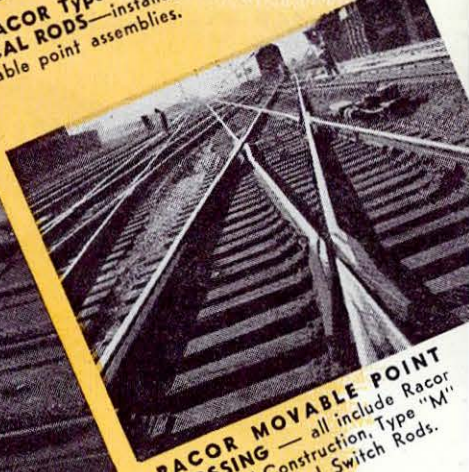


Chicago, Milwaukee, St. Paul & Pacific R. R. Hiawatha



RACOR RAIL LUBRICATORS—installed on tracks approaching crossing, reducing wear on wheel flanges and curved portions of slip switches and turnouts.

RACOR SAMSON SWITCH POINTS—"V" shaped planing provides extra heavy point section which insures longer life of curved switch points through this heavy duty location.



RACOR MOVABLE POINT CROSSING—all include Racor Brace Rail Construction, Type "M" & "MF" Vertical Switch Rods.

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Only Ramapo has plants from coast to coast to expedite America's Railroad needs

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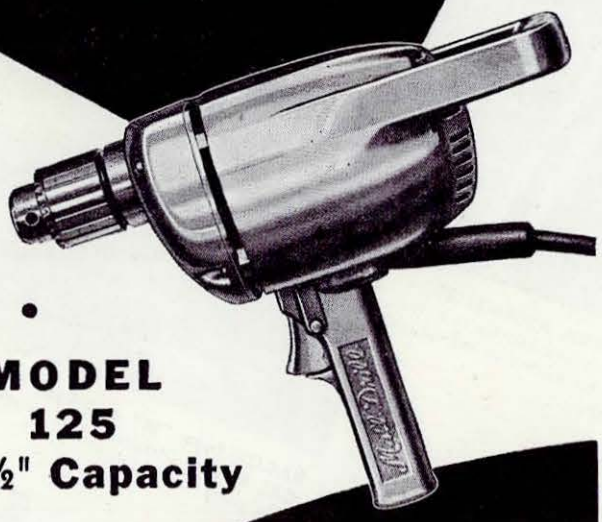
WHO KNOW TOOLS



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½" Capacity

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Railroad Department

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Mall REG. U.S. PAT. OFF. **PORTABLE POWER TOOLS**

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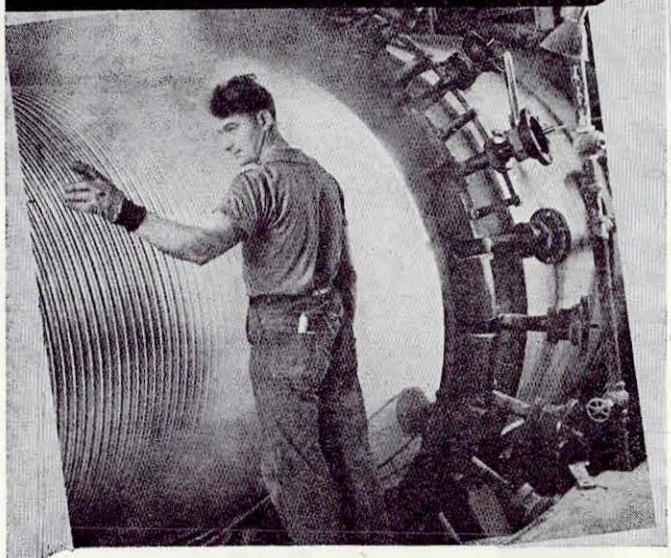
Right now many of the sorely needed important items of equipment for proper operation of Dining Car Service are available at DON. More and more items are becoming available daily. But *immediate* delivery of some major equipment is still impossible—all promises to the contrary. DON can speed delivery on all such items with your cooperation.

So write DON—ask for our salesman to call—or in Chicago, Phone CALumet 1300.

DON especially solicits the inclusion of Edward Don & Company, among the business establishments which regularly receive your notices of bids for Dining Car Equipment.

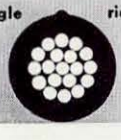
EDWARD DON & COMPANY
2201 S. La Salle Street • Chicago 16, Ill.

short facts about long-lived cable

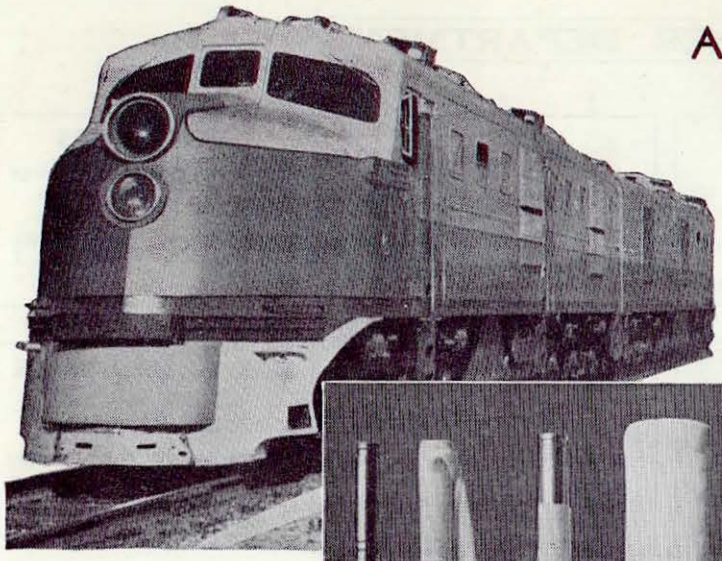


• All wires and cables insulated by Okonite's strip process are pressure vulcanized in a continuous metal mold. The Okonite Company, Passaic, N. J.

look for the single ridge



OKONITE OKONITE SINCE 1878
insulated wires and cables for every railroad use

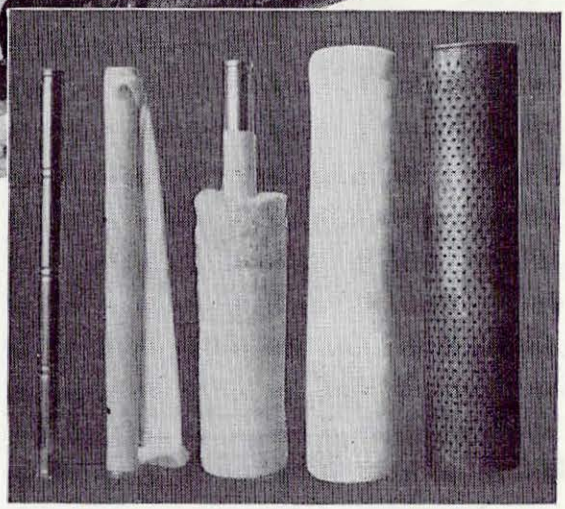


A Better Lubricating Oil
FILTER for Diesels

The M & J FILTER

elements can be applied to all internal combustion engines in any type of service.

ORIGINATORS OF
THE DIESEL LOCOMOTIVE
FILTER ELEMENT



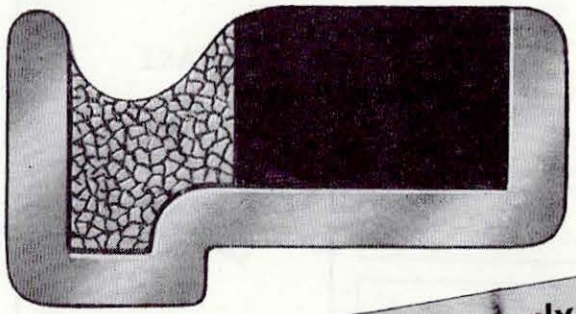
M & J DIESEL LOCOMOTIVE FILTER CO.
224 S. MICHIGAN AVENUE CHICAGO 4, ILLINOIS

"DON'T PULL THAT WHEEL!"

Flanges Reduced 1/8" in 16 Hours of *Service* with WHEEL TRUING BRAKE SHOES*

Here's a Typical Report on a Diesel Engine . . .

"Left front wheel, No. 1, was 1½" high and sharp when Wheel Truing Brake Shoe was applied. After 16 hours, ⅛" had been removed, making 1⅜" flange which was now within the law. No. 2 was reduced to 1-13/32", No. 3 was reduced to 1⅜", No. 4 was reduced to 1-13/32"; a reduction of from 3/32" to ⅛" with no harm to flanges on all four wheels."



FORM 4 SHOE

There is only ONE WHEEL TRUING BRAKE SHOE*

* Reg. U. S. Pat. Office

WHEEL TRUING BRAKE SHOE CO.

DETROIT MICHIGAN
Established 1898

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Educational Services for RAILROAD MEN

Our New Service on Diesel Locomotive Operation is highly recommended for Engineers and Firemen

The Railway Educational Bureau

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1—65-Ton, 0-6-0, Coal-Fired Steam Switcher, New 1923, Good Condition.
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Other Locomotives Too!
1—15-Ton Whitcomb Gasoline, Standard Gauge.

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CHICAGO 33, ILLINOIS
"ANYTHING containing IRON or STEEL"

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24—Box, 40-Ton, 50-Ft., Single Sheathed.
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3—Caboose, 8-Wheel, Steel Underframe.
69—Tank, 8,000 Gal. Capacity, Coiled and Non-Coiled, Class II and III.
57—Flat Cars, 50-Ton, 43-Ft.
4—Flat Cars, 50-Ton, 40-Ft.
6—Dump, 20 Cu. Yd., Automatic Air, K & J.
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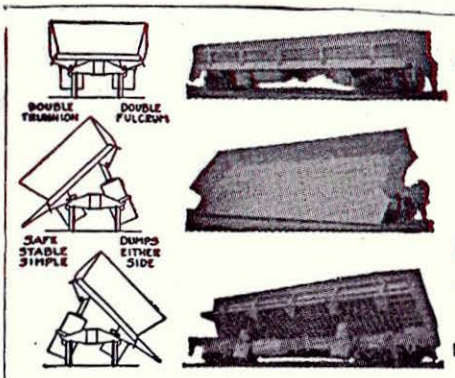

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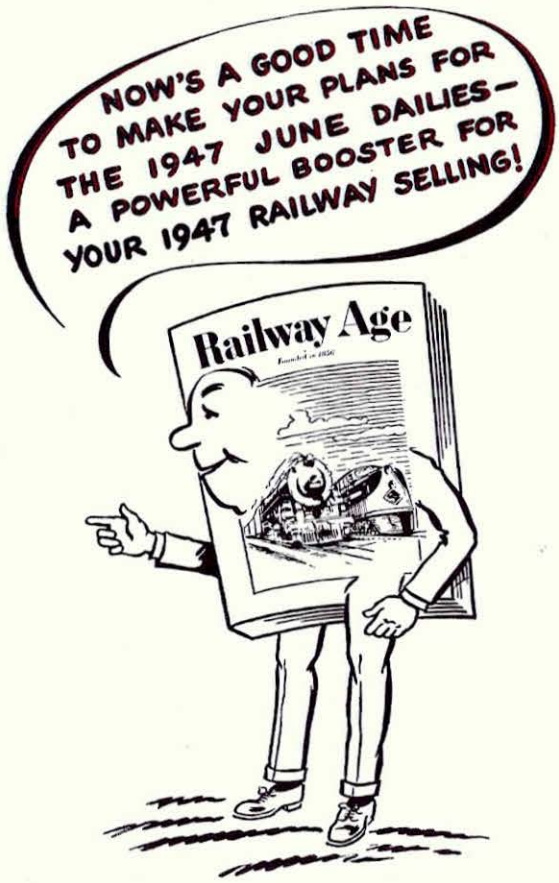
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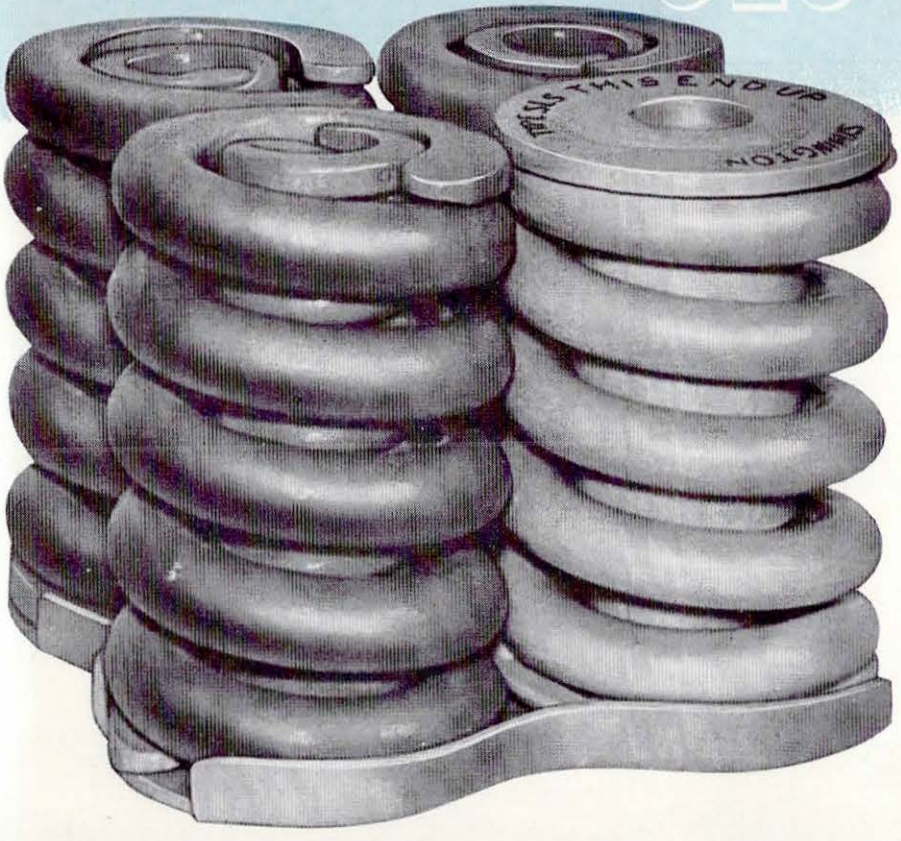

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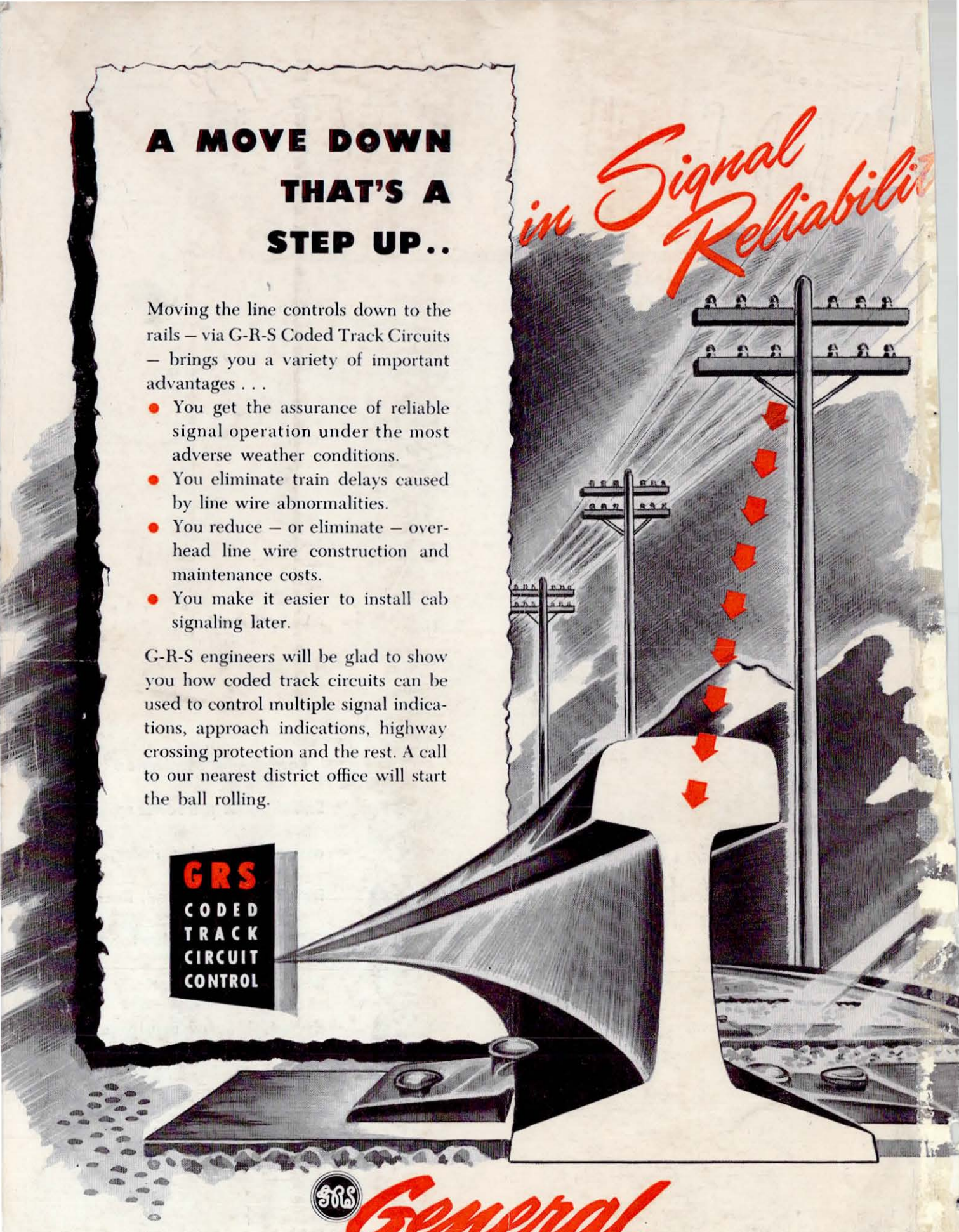

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